

FINAL

MIAMI

SULFUR DIOXIDE NONATTAINMENT AREA

STATE IMPLEMENTATION

AND

MAINTENANCE PLAN



AIR QUALITY DIVISION

ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY

June 2002



Jane Dee Hull
Governor

ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY

3033 North Central Avenue • Phoenix, Arizona 85012-2809
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Jacqueline E. Schafer
Director

June 26, 2002

Mr. Wayne Nasti
Regional Administrator
U.S. Environmental Protection Agency, Region IX
75 Hawthorne Street, ORA-1
San Francisco, CA 94105

Re: Submittal of Miami Sulfur Dioxide State Implementation and Maintenance Plan and Request For Redesignation to Attainment

Dear Mr. Nasti:

Consistent with the provisions of Arizona Revised Statutes (ARS) Title 49, §§ 49-104, 49-106, 49-404 and 49-406 (Enclosure 1) and the Code of Federal Regulations (CFR) Title 40, §§ 51.102-51.104, the Arizona Department of Environmental Quality (ADEQ) hereby adopts and submits to the U.S. Environmental Protection Agency (EPA), five copies of the Miami Sulfur Dioxide State Implementation and Maintenance Plan. The submittal contains three enclosures:

- Enclosure one contains the State authority for submittal of Implementation and Maintenance plans.
- Enclosure two contains the SIP completeness checklist.
- Enclosure three contains the Miami Sulfur Dioxide State Implementation and Maintenance Plan and Request For Redesignation to Attainment.

The Miami Area was designated nonattainment for the sulfur dioxide (SO₂) National Ambient Air Quality Standards (NAAQS) in 1979. This submittal summarizes the progress of the area in attaining the SO₂ NAAQS, demonstrates that all Clean Air Act requirements for attainment have been met and includes a plan to assure continued attainment for at least 10 years. The clean air quality record, enforceable control measures, and projections of future emissions, all demonstrate that the area has attained and will continue to maintain the SO₂ air quality standards. In addition, this submittal includes a formal request to revise the nonattainment area boundary, as currently defined in 40 CFR 81.303, according to the boundaries described in Enclosure 3, Chapter 1, Section 1.2 of this submittal. Additionally, ADEQ requests parallel processing of the SIP as the rulemaking for revisions to Arizona Administrative Code (AAC) R18-2-715(F)(2) through (F)(6), R18-2-715(G) and (H), and R18-2-715.01 are completed. ADEQ anticipates submittal of the final rule by late summer 2002.

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Wayne Natri
June 26, 2002
Page 2

With this submittal, ADEQ requests that EPA approve this implementation and maintenance plan for the Miami SO₂ nonattainment area and redesignate the area to attainment for the 24-hour and annual SO₂ NAAQS.

If you have any questions, please contact Nancy Wrona, Director, Air Quality Division, at (602) 207-2308 or Theresa Pella, Air Quality Planning Section Manager, at (602) 207-2375.

Sincerely,

A handwritten signature in cursive script that reads "Richard W. Tobin II". The signature is written in dark ink and includes a stylized flourish at the end.

Richard W. Tobin II
Deputy Director

Enclosures (3)

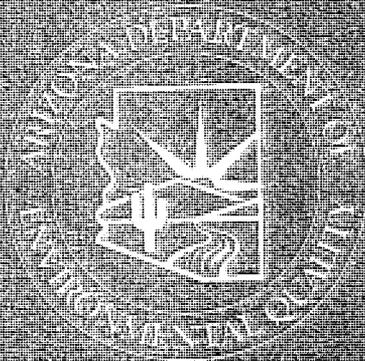
cc: Nancy Wrona, w/o enclosures, ADEQ
Colleen McKaughan, w/o enclosures, EPA

ENCLOSURE 1

State Authority

ARIZONA LAWS RELATING TO ENVIRONMENTAL QUALITY

2001-2002 EDITION



Arizona Department of Environmental Quality
1000 North Central Avenue, Suite 200
Phoenix, Arizona 85004
Telephone: (602) 974-2000
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www.azdeq.gov



Title 49, Chapter 1, Article 1, relating to the department of environmental quality, is repealed on January 1, 2006, by § 41-3005.14.

D. The director may organize the department into divisions as he deems appropriate.

Added by Laws 1986, Ch. 368, § 34, eff. July 1, 1987. Amended by Laws 1994, Ch. 95, § 1.

¹ Sections 41-761 et seq. and 41-781 et seq.

§ 49-101. Definitions

In this title, unless the context otherwise requires:

1. "Approximately equal" means, for purposes of fees adopted pursuant to § 49-480, excluding per ton emissions fees, an amount that is not greater than ten per cent more than the fees or costs charged by the state for similar state permits or approvals.

2. "Department" means the department of environmental quality.

3. "Director" means the director of environmental quality who is also the director of the department.

Added by Laws 1986, Ch. 368, § 34, eff. July 1, 1987. Amended by Laws 2000, Ch. 353, § 2, eff. July 18, 2000, retroactively effective to July 1, 2000.

§ 49-103. Department employees; legal counsel

A. The director, subject to title 41, chapter 4, articles 5 and 6,¹ shall employ, determine the conditions of employment and specify the duties of administrative, secretarial and clerical employees as he deems necessary.

B. The attorney general shall be the legal advisor of the department and shall give legal services as the department requires. Compensation for personnel assigned by the attorney general to perform such services shall be a charge against appropriations to the department. The attorney general shall prosecute and defend in the name of this state all actions necessary to carry out the provisions of this title.

Added by Laws 1986, Ch. 368, § 34, eff. July 1, 1987.

¹ Sections 41-761 et seq. and 41-781 et seq.

§ 49-102. Department of environmental quality; director; deputy director; division directors; divisions

A. The department of environmental quality is established.

B. The governor shall appoint a director of environmental quality pursuant to § 38-211. The director shall administer the department and serve at the pleasure of the governor. The director is entitled to receive compensation as determined under § 38-611. The director shall appoint a deputy director and, subject to legislative appropriation, may appoint division directors if necessary. The positions of director and deputy director are exempt from title 41, chapter 4, articles 5 and 6 relating to state service.¹

C. To be eligible for appointment as director a person must have a background or experience in one or more of the following areas:

1. Public administration.
2. Planning.
3. Personnel management.
4. Law.
5. Environmental science.

§ 49-104. Powers and duties of the department and director

A. The department shall:

1. Formulate policies, plans and programs to implement this title to protect the environment.

2. Stimulate and encourage all local, state, regional and federal governmental agencies and all private persons and enterprises that have similar and related objectives and purposes, cooperate with those agencies, persons and enterprises and correlate department plans, programs and operations with those of the agencies, persons and enterprises.

3. Conduct research on its own initiative or at the request of the governor, the legislature or state or local agencies pertaining to any department objectives.

4. Provide information and advice on request of any local, state or federal agencies and private persons and business enterprises on matters within the scope of the department.

5. Consult with and make recommendations to the governor and the legislature on all matters concerning department objectives.

6. Make annual reports to the governor and the legislature on its activities, its finances and the scope of its operations.

7. Promote and coordinate the management of air resources to assure their protection, enhancement and balanced utilization consistent with the environmental policy of this state.

8. Promote and coordinate the protection and enhancement of the quality of water resources consistent with the environmental policy of this state.

9. Encourage industrial, commercial, residential and community development that maximizes environmental benefits and minimizes the effects of less desirable environmental conditions.

10. Assure the preservation and enhancement of natural beauty and man-made scenic qualities.

11. Provide for the prevention and abatement of all water and air pollution including that related to particulates, gases, dust, vapors, noise, radiation, odor, nutrients and heated liquids in accordance with article 3 of this chapter and chapters 2 and 3 of this title.¹

12. Promote and recommend methods for the recovery, recycling and reuse or, if recycling is not possible, the disposal of solid wastes consistent with sound health, scenic and environmental quality policies.

13. Prevent pollution through the regulation of the storage, handling and transportation of solids, liquids and gases that may cause or contribute to pollution.

14. Promote the restoration and reclamation of degraded or despoiled areas and natural resources.

15. Assist the department of health services in recruiting and training state, local and district health department personnel.

16. Participate in the state civil defense program and develop the necessary organization and facilities to meet wartime or other disasters.

17. Cooperate with the Arizona-Mexico commission in the governor's office and with researchers at universities in this state to collect data and conduct projects in the United States and Mexico on issues that are within the scope of the department's duties and that relate to quality of life, trade and economic development in this state in a manner that will help the Arizona-Mexico commission to assess and enhance the economic competitiveness of this state and of the Arizona-Mexico region.

B. The department, through the director, shall:

1. Contract for the services of outside advisers, consultants and aides reasonably necessary or desirable to enable the department to adequately perform its duties.

2. Contract and incur obligations reasonably necessary or desirable within the general scope of department activities and operations to enable the department to adequately perform its duties.

3. Utilize any medium of communication, publication and exhibition when disseminating information, advertising and publicity in any field of its purposes, objectives or duties.

4. Adopt procedural rules that are necessary to implement the authority granted under this title, but that are not inconsistent with other provisions of this title.

5. Contract with other agencies including laboratories in furthering any department program.

6. Use monies, facilities or services to provide matching contributions under federal or other programs that further the objectives and programs of the department.

7. Accept gifts, grants, matching monies or direct payments from public or private agencies or private persons and enterprises for department services and publications and to conduct programs that are consistent with the general purposes and objectives of this chapter. Monies received pursuant to this paragraph shall be deposited in the department fund corresponding to the service, publication or program provided.

8. Provide for the examination of any premises if the director has reasonable cause to believe that a violation of any environmental law or rule exists or is being committed on the premises. The director shall give the owner or operator the opportunity for its representative to accompany the director on an examination of those premises. Within forty-five days after the date of the examination, the department shall provide to the owner or operator a copy of any report produced as a result of any examination of the premises.

9. Supervise sanitary engineering facilities and projects in this state, authority for which is vested in the department, and own or lease land on which sanitary engineering facilities are located, and operate the facilities, if the director determines that owning, leasing or operating is necessary for the public health, safety or welfare.

10. Adopt and enforce rules relating to approving design documents for constructing, improving

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and operating sanitary engineering and other facilities for disposing of solid, liquid or gaseous deleterious matter.

11. Define and prescribe reasonably necessary rules regarding the water supply, sewage disposal and garbage collection and disposal for subdivisions. The rules shall:

(a) Provide for minimum sanitary facilities to be installed in the subdivision and may require that water systems plan for future needs and be of adequate size and capacity to deliver specified minimum quantities of drinking water and to treat all sewage.

(b) Provide that the design documents showing or describing the water supply, sewage disposal and garbage collection facilities be submitted with a fee to the department for review and that no lots in any subdivision be offered for sale before compliance with the standards and rules has been demonstrated by approval of the design documents by the department.

12. Prescribe reasonably necessary measures to prevent pollution of water used in public or semipublic swimming pools and bathing places and to prevent deleterious conditions at such places. The rules shall prescribe minimum standards for the design of and for sanitary conditions at any public or semipublic swimming pool or bathing place and provide for abatement as public nuisances of premises and facilities that do not comply with the minimum standards. The rules shall be developed in cooperation with the director of the department of health services and shall be consistent with the rules adopted by the director of the department of health services pursuant to § 36-136, subsection H, paragraph 10.

13. Prescribe reasonable rules regarding sewage collection, treatment, disposal and reclamation systems to prevent the transmission of sewage borne or insect borne diseases. The rules shall:

(a) Prescribe minimum standards for the design of sewage collection systems and treatment, disposal and reclamation systems and for operating the systems.

(b) Provide for inspecting the premises, systems and installations and for abating as a public nuisance any collection system, process, treatment plant, disposal system or reclamation system that does not comply with the minimum standards.

(c) Require that design documents for all sewage collection systems, sewage collection system

extensions, treatment plants, processes, devices, equipment, disposal systems, on-site wastewater treatment facilities and reclamation systems be submitted with a fee for review to the department and may require that the design documents anticipate and provide for future sewage treatment needs.

(d) Require that construction, reconstruction, installation or initiation of any sewage collection system, sewage collection system extension, treatment plant, process, device, equipment, disposal system, on-site wastewater treatment facility or reclamation system conform with applicable requirements.

14. Prescribe reasonably necessary rules regarding excreta storage, handling, treatment, transportation and disposal. The rules shall:

(a) Prescribe minimum standards for human excreta storage, handling, treatment, transportation and disposal and shall provide for inspection of premises, processes and vehicles and for abating as public nuisances any premises, processes or vehicles that do not comply with the minimum standards.

(b) Provide that vehicles transporting human excreta from privies, septic tanks, cesspools and other treatment processes shall be licensed by the department subject to compliance with the rules.

15. Perform the responsibilities of implementing and maintaining a data automation management system to support the reporting requirements of title III of the superfund amendments and reauthorization act of 1986 (P.L. 99-499)² and title 26, chapter 2, article 3.³

16. Approve remediation levels pursuant to article 4 of this chapter.⁴

C. The department may charge fees to cover the costs of all permits and inspections it performs to insure compliance with rules adopted under § 49-203, subsection A, paragraph 6, except that state agencies are exempt from paying the fees. Monies collected pursuant to this subsection shall be deposited in the water quality fee fund established by § 49-210.

D. The director may:

1. If he has reasonable cause to believe that a violation of any environmental law or rule exists or is being committed, inspect any person or property in transit through this state and any vehicle in which the person or property is being transported and detain or disinfect the person, property or

vehicle as reasonably necessary to protect the environment if a violation exists.

2. Authorize in writing any qualified officer or employee in the department to perform any act that the director is authorized or required to do by law.

Added by Laws 1986, Ch. 368, § 34, eff. July 1, 1987. Amended by Laws 1987, Ch. 317, § 14, eff. Aug. 18, 1987, retroactively effective to July 1, 1987; Laws 1989, Ch. 238, § 10; Laws 1995, Ch. 202, § 2, eff. July 1, 1996; Laws 1995, Ch. 231, § 1; Laws 1995, Ch. 232, § 2; Laws 1995, Ch. 261, § 1; Laws 1996, Ch. 351, § 37; Laws 1997, Ch. 49, § 6; Laws 1997, Ch. 287, § 17, eff. April 29, 1997; Laws 1997, Ch. 296, § 1; Laws 1999, Ch. 26, § 3, eff. Jan. 1, 2001; Laws 2000, Ch. 225, § 1; Laws 2000, Ch. 225, § 2, eff. Jan. 1, 2001; Laws 2001, Ch. 21, § 3; Laws 2001, Ch. 231, § 12.

¹ Sections 49-141 et seq., 49-201 et seq. and 49-401 et seq.

² 42 U.S.C.A. § 11021 et seq.

³ Section 26-341 et seq.

⁴ Section 49-151 et seq.

§ 49-105. Annual report on violations and enforcement

Not later than December 1 of each year the director shall submit to the governor, the speaker of the house of representatives and the president of the senate a report listing the following information for the preceding fiscal year ending June 30:

1. The number of site or facility inspections conducted pursuant to chapters 2 and 5 of this title,¹ including information on the reasons for and nature of such inspections.

2. The number of permits or approvals issued pursuant to chapters 2 and 5 of this title.

3. The names of all persons who were the subject of an enforcement action by the department as a result of a violation of any provision of chapter 2 or 5 of this title, including any rules, permits, orders or conditions of approval issued under those chapters.

4. A brief description of the number and nature of violations committed by each person named under paragraph 3 and a description of any enforcement action taken in response to the violations.

5. A summary of all administrative penalties assessed pursuant to enforcement of the federal safe drinking water act and the violations of that act.

Added by Laws 1986, Ch. 368, § 34, eff. July 1, 1987. Amended by Laws 1994, Ch. 95, § 2; Laws 1997, Ch. 130, § 11, eff. April 22, 1997; Laws 1999, Ch. 295, § 26.

¹ Section 49-201 et seq. and 49-901 et seq.

§ 49-106. Statewide application of rules

The rules adopted by the department apply and shall be observed throughout this state, or as provided by their terms, and the appropriate local officer, council or board shall enforce them. This section does not limit the authority of local governing bodies to adopt ordinances and rules within their respective jurisdictions if those ordinances and rules do not conflict with state law and are equal to or more restrictive than the rules of the department, but this section does not grant local governing bodies any authority not otherwise provided by separate state law.

Added by Laws 1987, Ch. 317, § 15, eff. Aug. 18, 1987, retroactively effective to July 1, 1987.

§ 49-107. Local delegation of state authority

A. The director may delegate to a local environmental agency, county health department, public health services district or municipality any functions, powers or duties which the director believes can be competently, efficiently and properly performed by the local agency if the local agency accepts the delegation and agrees to perform the delegated functions, powers and duties according to the standards of performance required by law and prescribed by the director.

B. Monies appropriated or otherwise made available to the department for distribution to local agencies may be allocated or reallocated in a manner designed to assure that the recognized local activities and the delegated functions, powers and duties are accomplished according to the applicable standards of performance.

C. The director may terminate, for cause, all or part of the delegation and reallocate all or part of any monies that may have been conditioned on the further performance of the delegated functions, powers and duties.

Added by Laws 1987, Ch. 317, § 15, eff. Aug. 18, 1987, retroactively effective to July 1, 1987. Amended by Laws 2000, Ch. 11, § 20.

§ 49-108. Hazardous materials emergency response operations

The director of environmental quality shall establish a hazardous materials emergency response and recovery organizational unit in the department to function as the scientific support, health, safety and environmental element of the hazardous materials

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tion and control to the extent asserted, and the provisions of this chapter shall govern, except as provided in this chapter, until jurisdiction is surrendered by the department to such county or region.

C. Portable sources under jurisdiction of the department under subsection A, paragraph 6 of this section may be required to file notice with the director and the control officer who has jurisdiction over the geographic area that includes the new location before beginning operations at that new location.

D. Notwithstanding any other law, a permit issued to a state regulated source shall include the emission standard or standard of performance adopted pursuant to § 49-479, if such standards are more stringent than those adopted by the director and if such standards are specifically identified as applicable to the permitted source or a component of the permitted source. Such standards shall be applied to sources identified in subsection A, paragraph 2, 3, 4 or 5 of this section only if the standard is formally proposed for adoption as part of the state implementation plan.

E. The regional planning agency for each county which contains a vehicle emissions control area shall develop plan revisions containing transportation related air quality control measures designed to attain and maintain primary and secondary ambient air quality standards as prescribed by and within the time frames specified in the clean air act. In developing the plan revisions, the regional planning agency shall consider all of the following:

1. Mandatory employee parking fees.
2. Park and ride programs.
3. Removal of on-street parking.
4. Ride share programs.
5. Mass transit alternatives.
6. Expansion of public transportation systems.
7. Optimizing freeway ramp metering.
8. Coordinating traffic signal systems.
9. Reduction of traffic congestion at major intersections.
10. Site specific transportation control measures.
11. Reversible lanes.
12. Fixed lanes for buses and carpools.
13. Encouragement of pedestrian travel.
14. Encouragement of bicycle travel.

15. Development of bicycle travel facilities.
16. Employer incentives regarding ride share programs.
17. Modification of work schedules.
18. Strategies for controlling the generation of air pollution by nonresidents of nonattainment or maintenance areas.
19. Use of alternative fuels.
20. Use of emission control devices on public diesel powered vehicles.
21. Paving of roads.
22. Restricting off-road vehicle travel.
23. Construction site air pollution control.
24. Other air quality control measures.

F. Each regional planning agency shall consult with the department of transportation to coordinate the plans developed pursuant to subsection E of this section with transportation plans developed by the department of transportation pursuant to any other law.

Added as § 36-1706 by Laws 1967, Ch. 2, § 9. Amended by Laws 1969, Ch. 53, § 17; Laws 1970, Ch. 164, § 28, eff. May 18, 1970; Laws 1971, Ch. 190, § 12; Laws 1973, Ch. 158, § 201; Laws 1982, Ch. 259, § 2; Laws 1986, Ch. 319, § 2, eff. Jan. 1, 1987. Renumbered as § 49-402 by Laws 1986, Ch. 368, § 37, subsec. B, eff. July 1, 1987. Amended by Laws 1987, Ch. 317, § 35, eff. Aug. 18, 1987, retroactively effective to July 1, 1987; Laws 1992, Ch. 299, § 8, eff. Sept. 1, 1993; Laws 1994, Ch. 353, § 21, eff. April 26, 1994; Laws 1999, Ch. 295, § 41.

¹ Section 49-541 et seq.

² Section 49-471 et seq.

§ 49-403. Repealed by Laws 1988, Ch. 252, § 16, eff. Nov. 2, 1992

§ 49-404. State implementation plan

A. The director shall maintain a state implementation plan that provides for implementation, maintenance and enforcement of national ambient air quality standards and protection of visibility as required by the clean air act.

B. The director may adopt rules that describe procedures for adoption of revisions to the state implementation plan.

C. The state implementation plan and all revisions adopted before September 30, 1992 remain in effect according to their terms, except to the extent otherwise provided by the clean air act, inconsistent with any provision of the clean air act, or revised by the administrator. No control re-

quirement in effect, or required to be adopted by an order, settlement agreement or plan in effect, before the enactment of the clean air act in any area which is a nonattainment or maintenance area for any air pollutant may be modified after enactment in any manner unless the modification insures equivalent or greater emission reductions of the air pollutant. The director shall evaluate and adopt revisions to the plan in conformity with federal regulations and guidelines promulgated by the administrator for those purposes until the rules required by subsection B are effective.

Added by Laws 1992, Ch. 299, § 9. Amended by Laws 1999, Ch. 295, § 42.

§ 49-405. Attainment area designations

A. The governor may designate the status and classification of areas of this state with respect to attainment of national ambient air quality standards.

B. The director shall adopt rules that both:

1. Describe the geographic extent of attainment, nonattainment or unclassifiable areas of this state for all pollutants for which a national ambient air quality standard exists.

2. Establish procedures and criteria for changing the designations of areas that include all of the following:

(a) Technical bases for proposed changes, including ambient air quality data, types and distributions of sources of air pollution, population density and projected population growth, transportation system characteristics, traffic congestion, projected industrial and commercial development, meteorology, pollution transport and political boundaries.

(b) Provisions for review of and public comment on proposed changes to area designations.

(c) All area designations adopted by the administrator as of May 30, 1992.

Added by Laws 1992, Ch. 299, § 9.

§ 49-406. Nonattainment area plan

A. For any ozone, carbon monoxide or particulate nonattainment or maintenance area the governor shall certify the metropolitan planning organization designated to conduct the continuing, cooperative and comprehensive transportation planning process for that area under 23 United States Code § 134¹ as the agency responsible for

the development of a nonattainment or maintenance area plan for that area.

B. For any ozone, carbon monoxide or particulate nonattainment or maintenance area for which no metropolitan planning organization exists, the department shall be certified as the agency responsible for development of a nonattainment or maintenance area plan for that area.

C. For any ozone, carbon monoxide or particulate nonattainment or maintenance area, the department, the planning agency certified pursuant to subsection A of this section on behalf of elected officials of affected local government, the county air pollution control department or district, and the department of transportation shall, by November 15, 1992, and from time to time as necessary, jointly review and update planning procedures or develop new procedures.

D. In preparing the procedures described in subsection C of this section, the department, the planning agency certified pursuant to subsection A of this section on behalf of elected officials of affected local government, the county air pollution control department or district, and the department of transportation shall determine which elements of each revised implementation plan will be developed, adopted, and implemented, through means including enforcement, by the state and which by local governments or regional agencies, or any combination of local governments, regional agencies or the state.

E. The department, the planning agency certified pursuant to subsection A of this section on behalf of elected officials of affected local government, the county air pollution control department or district, and the department of transportation shall enter into a memorandum of agreement for the purpose of coordinating the implementation of the procedures described in subsection C and D of this section.

F. At a minimum, the memorandum of agreement shall contain:

1. The relevant responsibilities and authorities of each of the coordinating agencies.

2. As appropriate, procedures, schedules and responsibilities for development of nonattainment or maintenance area plans or plan revisions and for determining reasonable further progress.

3. Assurances for adequate plan implementation.

4. Procedures and responsibilities for tracking plan implementation.

5. Responsibilities for preparing demographic projections including land use, housing, and employment.

6. Coordination with transportation programs.

7. Procedures and responsibilities for adoption of control measures and emissions limitations.

8. Responsibilities for collecting air quality, transportation and emissions data.

9. Responsibility for conducting air quality modeling.

10. Responsibility for administering and enforcing stationary source controls.

11. Provisions for the timely and periodic sharing of all data and information among the signatories relating to:

(a) Demographics.

(b) Transportation.

(c) Emissions inventories.

(d) Assumptions used in developing the model.

(e) Results of modeling done in support of the plan.

(f) Monitoring data.

G. Each agency that commits to implement any emission limitation or other control measure, means or technique contained in the implementation plan shall describe that commitment in a resolution adopted by the appropriate governing body of the agency. The resolution shall specify the following:

1. Its authority for implementing the limitation or measure as provided in statute, ordinance or rule.

2. A program for the enforcement of the limitation or measure.

3. The level of personnel and funding allocated to the implementation of the measure.

H. The state, in accordance with the rules adopted pursuant to § 49-404, and the governing body of the metropolitan planning organization shall adopt each nonattainment or maintenance area plan developed by a certified metropolitan planning organization. The adopted nonattainment or maintenance area plan shall be transmitted to the department for inclusion in the state implementation plan provided for under § 49-404.

I. After adoption of a nonattainment or maintenance area plan, if on the basis of the reasonable further progress determination described in subsection F of this section or other information, the control officer determines that any person has failed to implement an emission limitation or other control measure, means or technique as described in the resolution adopted pursuant to subsection G of this section, the control officer shall issue a written finding to the person, and shall provide an opportunity to confer. If the control officer subsequently determines that the failure has not been corrected, the county attorney, at the request of the control officer, shall file an action in superior court for a preliminary injunction, a permanent injunction, or any other relief provided by law.

J. After adoption of a nonattainment or maintenance area plan, if, on the basis of the reasonable further progress determination described in subsection F of this section or other information, the director determines that any person has failed to implement an emission limitation or other control measure, means or technique as described in the resolution adopted pursuant to subsection G of this section, and that the control officer has failed to act pursuant to subsection I of this section, the director shall issue a written finding to the person and shall provide an opportunity to confer. If the director subsequently determines that the failure has not been corrected, the attorney general, at the request of the director, shall file an action in superior court for a preliminary injunction, a permanent injunction, or any other relief provided by law.

K. Notwithstanding subsections A and B of this section, in any metropolitan area with a metropolitan statistical area population of less than two hundred fifty thousand persons, the governor shall designate an agency that meets the criteria of § 174 of the clean air act and that is recommended by the city that causes the metropolitan area to exist and the affected county. That agency shall prepare and adopt the nonattainment or maintenance area plan. If the governor does not designate an agency, the department shall be certified as the agency responsible for the development of a nonattainment or maintenance area plan for that area.

Added by Laws 1992, Ch. 299, § 9. Amended by Laws 1994, Ch. 134, § 1; Laws 1998, Ch. 217, § 15.

123 U.S.C.A. § 134.

ENCLOSURE 2

SIP completeness Checklist

STATE IMPLEMENTATION PLAN COMPLETENESS CHECKLIST

MIAMI STATE IMPLEMENTATION AND MAINTENANCE PLAN (SIP)

1. SUBMITTAL LETTER FROM GOVERNOR/DESIGNEE

See cover letter.

2. EVIDENCE OF ADOPTION

See cover letter.

3. STATE LEGAL AUTHORITY FOR ADOPTION/IMPLEMENTATION

See Enclosure 1.

4. COMPLETE COPY OF APPLICABLE REGULATION

Not Applicable.

5. EVIDENCE THAT ARIZONA ADMINISTRATIVE PROCEDURE ACT
REQUIREMENTS (ARS §§ 41-1021 through 1036) WERE MET FOR RULES

See Enclosure 3, Appendix A.

6. EVIDENCE OF PUBLIC HEARING PER 40 CFR 51.102

See Enclosure 3, Appendix D.

7. PUBLIC COMMENTS AND AGENCY RESPONSE

See Enclosure 3, Appendix D.

8. IDENTIFICATION OF POLLUTANTS REGULATED BY RULE

Sulfur Dioxide (SO₂).

9. IDENTIFICATION OF SOURCES/ATTAINMENT STATUS

See Enclosure 3, Chapters 3.0, 4.0, 6.0, and 7.0.

10. WRITTEN SUMMARY OF RULE/RULE CHANGE

See Enclosure 3, Appendix A.

11. RULE CHANGES INDICATED BY UNDERLINING AND CROSS-OUTS

See Enclosure 3, Appendix A.

12. RULE'S EFFECT ON EMISSIONS

See Enclosure 3, Chapter 5.

13. DEMONSTRATION THAT NAAQS, PSD INCREMENTS AND RFP ARE PROTECTED

See Enclosure 3, Chapter 1.0 and Chapter 7.0.

14. EVIDENCE THAT EMISSIONS LIMITATIONS ARE BASED ON CONTINUOUS EMISSIONS REDUCTION TECHNOLOGY

See Enclosure 3, Chapter 6.0.

15. MODELING SUPPORT

See Enclosure 3, Chapter 5.

16. IDENTIFICATION OF RULE SECTIONS CONTAINING EMISSION LIMITS, WORK PRACTICE STANDARDS, AND/OR RECORD KEEPING/REPORTING REQUIREMENTS

See Enclosure 3, Chapter 5.0 and Appendix A.

17. COMPLIANCE/ENFORCEMENT STRATEGIES

See Enclosure 3, Chapters 6.0 and 7.0.

18. ECONOMIC TECHNICAL JUSTIFICATION FOR DEVIATION FROM EPA POLICIES

No known deviation from EPA policy.

ENCLOSURE 3

**Miami Sulfur Dioxide State Implementation and Maintenance Plan
and Request for Redesignation to Attainment**

FINAL

MIAMI

SULFUR DIOXIDE NONATTAINMENT AREA

STATE IMPLEMENTATION

AND

MAINTENANCE PLAN



AIR QUALITY DIVISION

ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY

June 2002

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1.0 INTRODUCTION

1.1 Executive Summary

This document is an attainment demonstration, maintenance plan, and formal request to the United States Environmental Agency (EPA) to redesignate the Miami, Arizona area, a nonattainment area for sulfur dioxide (SO₂), to attainment for the health-based 24-hour average and annual average SO₂ National Ambient Air Quality Standards (NAAQS). It summarizes the progress of the area in attaining the SO₂ standards, demonstrates that all Clean Air Act (CAA) requirements for attainment have been adopted, and includes a maintenance plan to assure continued attainment after redesignation.

The air quality record included in **Chapter 3** of this document shows that ambient air quality monitors located in the Miami nonattainment area have recorded no violations of the primary SO₂ NAAQS or secondary SO₂ NAAQS since 1985. This meets the EPA requirement to demonstrate eight consecutive quarters of ambient air quality measurements below the SO₂ NAAQS.

This document also demonstrates that the emission reduction control measures responsible for the air quality improvement are both permanent and enforceable. Based on state point source and EPA National Emissions Trends (NET) mobile and area source emissions inventories, the primary source of SO₂ in the nonattainment area is the copper smelter located near Miami, Arizona. The 2000 base-year Miami nonattainment area emissions inventory, presented in **Chapter 4**, lists the sources in the nonattainment area and their SO₂ emissions. Details regarding the updated modeling demonstration are contained in **Chapter 5**. **Chapter 6** describes the primary control measures implemented to achieve attainment. These measures include implementation of reasonably available control measures (RACM) to reduce emissions from the smelter near Miami.

Chapter 7 describes in detail measures designed to ensure continued maintenance of the SO₂ NAAQS for at least ten years after redesignation of the area to attainment.

The clean air quality record, enforceable control measures, and projections of future emissions presented in this document, all demonstrate that the area has attained and will continue to maintain the SO₂ air quality standards. With this submittal, ADEQ requests that EPA approve this attainment demonstration and maintenance plan for the Miami SO₂ nonattainment area and redesignate the area to attainment for the 24-hour and annual NAAQS.

1.2 Regulatory Background

The federal air quality standards for SO₂ were established to identify maximum ambient concentrations above which adverse effects on human health and welfare may occur. Accordingly, the SO₂ standards are divided into two types: primary and secondary. The primary standards are based on the protection of public health and the secondary standard is based on protection of the environment, including protection against damage to animals, vegetation, buildings, and decreased visibility. The original national primary and secondary NAAQS for SO₂ were codified in Volume 42 of the Code of Federal Regulations, Part 410 (42 CFR 410) on April 30, 1971, (36 FR 81875) and recodified to 40 CFR 50.4 and 50.5 on November 25, 1971 (36 FR 22384). On May 22, 1996, the EPA promulgated the current primary and

secondary NAAQS for SO₂ (61 FR 25566) as follows:¹

Standard ²	Annual	24-hour	3-hour
Primary	0.030 ppm (80 μg/m ³)	0.14 ppm (365 μg/m ³)	
Secondary			0.5 ppm (1300 μg/m ³)

Areas that do not meet the NAAQS may be designated nonattainment for the respective standard. The Miami SO₂ nonattainment area initially comprised all of Gila County (43 FR 8968, March 3, 1978) but, the boundaries were subsequently reduced to nine townships in and around Miami (44 FR 21261, April 10, 1979). In addition, six adjacent townships were designated as unclassified. The current boundaries of the nonattainment and unclassified areas, as shown in Table 1.1, are codified at 40 CFR 81.303.

Miami Area Description	Does Not Meet Primary Standards	Cannot Be Classified
T2N, R14E	X	
T2N, R15E	X	
T1N, R13E ³	X	
T1N, R14E	X	
T1N, R15E	X	
T1N, R16E	X	
T1S, R14E ³	X	
T1S, R14 1/4E	X	
T1S, R15E	X	
T2N, R13E		X

¹ Several technical changes were made at this time including stating the standards in parts per million (ppm) to make the SO₂ NAAQS consistent with those for other pollutants. The former standards, stated in micrograms per cubic meter (ug/m³) are in parentheses.

² Violations of the primary and secondary standards are determined as follows: The annual arithmetic mean of measured hourly ambient SO₂ concentrations must not exceed the level of the annual standard in a calendar year. The 24-hour and 3-hour averages of measured concentrations must not exceed the level of the respective standard more than once per calendar year (two exceedances of a standard per year is a violation of that standard).

³ Only that portion in Gila County

Table 1.1 - Current Study Area Definition		
Miami Area Description	Does Not Meet Primary Standards	Cannot Be Classified
T2N, R16E		X
T1S, R13E		X
T1S, 16E		X
T2S, R14E		X
T2S, R15E		X

At this time, the State of Arizona requests the area boundaries be revised to accurately reflect the air shed and remove tribal lands because the State has no jurisdiction over sources on tribal lands. EPA approval of the boundary revision and redesignation to attainment of the Miami area will not change applicable regulations in the excluded area or in any other way adversely impact the effectiveness or enforceability of the applicable SIP.

The Arizona Department of Environmental Quality (ADEQ), formally requests, pursuant to CAA Section 107(d)(3)(D), that the Miami SO₂ area boundary be revised to add the following to the current study area definition as defined in 40 CFR 81.303: T1N, R15 ½ E (does not meet primary standards) and T2N, R15 ½ E (unclassifiable); and the following be removed from the current study area definition: that part of T1N, R16E that is San Carlos Indian Reservation land (See **Figure 1.1** for location map of the current and proposed boundaries and Table 1.2 for a description of the current and proposed township boundaries).

Table 1.2 - Proposed Modified Study Area Definition		
Miami Area Description	Does Not Meet Primary Standards	Cannot Be Classified
T2N, R14E	X	
T2N, R15E	X	
T1N, R13E ⁴	X	
T1N, R14E	X	
T1N, R15E	X	
T1N, R15 ½ E⁵	X	

⁴ Only that portion in Gila County.

⁵ Additional area ADEQ requests to add to nonattainment area

Table 1.2 - Proposed Modified Study Area Definition		
Miami Area Description	Does Not Meet Primary Standards	Cannot Be Classified
T1N, R16E ^{5,6}	X	
T1S, R14E ⁴	X	
T1S, R14 1/4 E	X	
T1S, R15E	X	
T2N, R13E		X
T2N, R15 1/2 E ⁷		X
T2N, R16E ⁵		X
T1S, R13E		X
T1S, 16E		X
T2S, R14E		X
T2S, R16E		X

The relationship between major SO₂ point sources and ambient air quality is relatively well-defined. Emission inventories demonstrate that the Phelps-Dodge Miami smelter comprises 99 percent of total SO₂ emission in the nonattainment area (See **Chapter 4**).⁸ The primary copper smelter is located northeast of the town of Miami, in the unincorporated area of Claypool, Gila County, Arizona; at latitude 33°24'50" N and longitude 110°51'25" W, at an elevation of 3,595 feet above mean sea level (See **Figure 1.1**). As required by the Clean Air Act (CAA), Arizona submitted a State Implementation Plan (SIP) for all major sources in the state in 1972. The portion of the SIP pertaining to attainment and maintenance of the NAAQS for SO₂ did not sufficiently define emissions limitations or require permanent control of emissions for existing copper smelters and was, therefore, disapproved on July 27, 1972 (37 FR 15081). On the same date, EPA proposed revised regulations for control of sulfur oxides emitted by all existing smelters in Arizona (37 FR 15096). These regulations were never finalized due to issues regarding the adequacy of the air quality data used to develop the limits. EPA subsequently established an SO₂ monitoring network around each smelter (June 1973 - October 1974) to gather air quality data upon which to base emissions limitations.

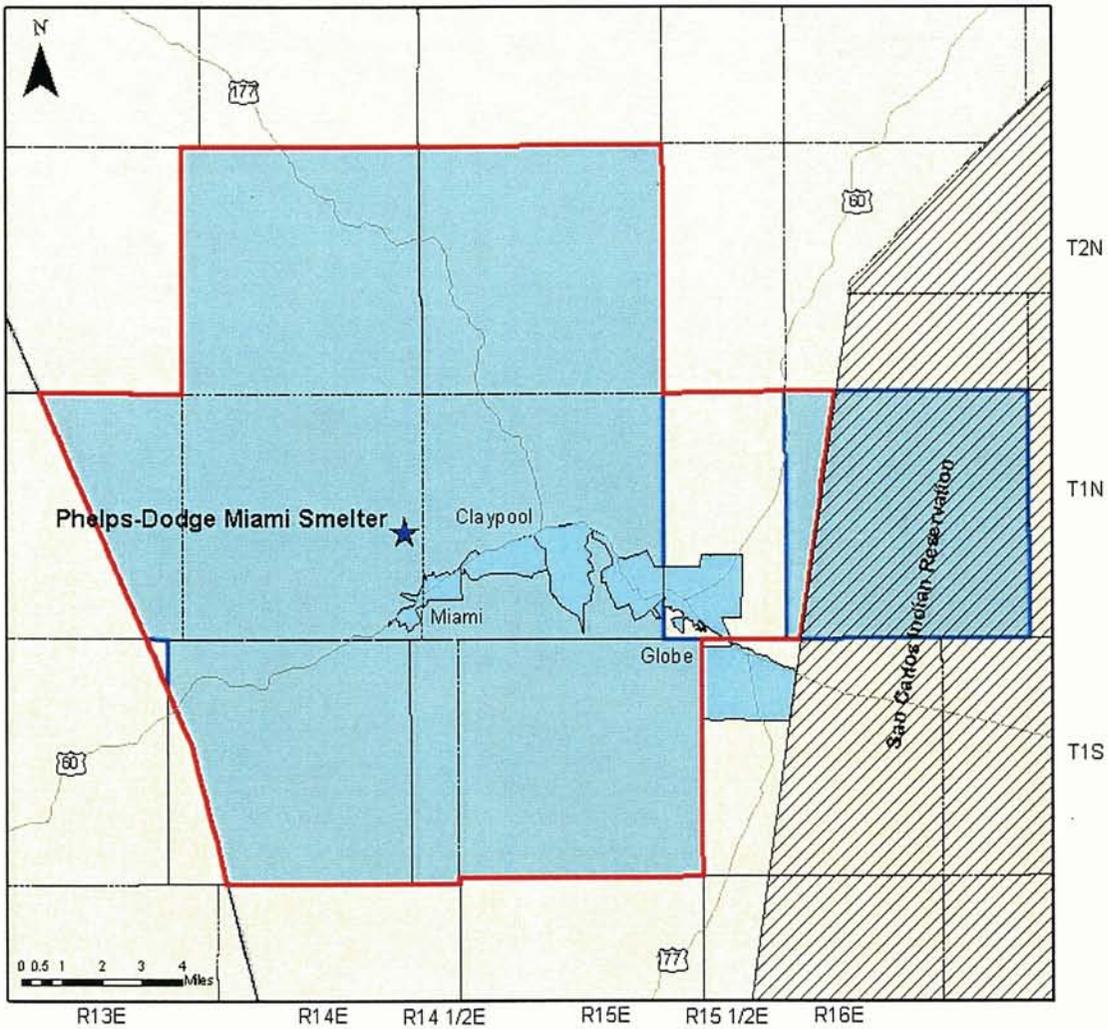
EPA and State efforts to develop comprehensive emissions limits continued through the 1970s. In 1977, the State developed rules for the use of Supplementary Control Systems (SCS), whereby, based

⁶ Only that portion not in the San Carlos Indian Reservation.

⁷ Area to ADEQ requests to remove from the nonattainment area.

⁸ In 1984, ownership of the smelter transitioned from Inspiration Mining Corp. to Cyprus Miami Mining, Inc, and in 1999, to Phelps-Dodge, who maintains current ownership and operation.

Figure 1.1 Miami SO2 Nonattainment Area



Legend

- ★ Phelps-Dodge Miami Smelter
- Roads
- ▨ San Carlos Indian Reservation
- ▭ ADEQ Boundary Designation
- ▭ City Limits
- ▭ EPA Boundary Designation

DISCLAIMER: This map is for reference purposes only. A more detailed description of the study area can be obtained by calling the Arizona Department of Environmental Quality.

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 Date: February 4, 2002



on ambient monitoring data, the smelters could intermittently curtail emissions to meet the SO₂ NAAQS. EPA disapproved this approach and required installation and operation of SO₂ emissions controls at all times to adequately to meet the NAAQS. Consequently, on January 4, 1978, EPA published final emissions limits for the Arizona smelters based on the 1973-1974 air quality data and the use of a proportional rollback model (43 FR 755). These regulations specified an emission rate and compliance test methods for each smelter. The 1977 Clean Air Act Amendments, however, modified smelter control requirements to allow the temporary use of SCS while the ultimate SO₂ emission limits were developed and also allowed certain smelters additional time for emissions control technology to be installed. In response to this action, Arizona began development of new regulations and on September 20, 1979, submitted Multi-point Rollback (MPR) rules as a proposed revision to the Arizona SIP.⁹

The use of MPR to establish stack emissions limits in the rules addressed the problem of inherently variable SO₂ emissions from smelting operations by correlating the frequency of emissions at various levels with the probability of violating the ambient standards. This technique, “rolled back” a yearly emission profile to a level protective of the standards. The new regulations also set requirements for analyzing the impact of smelter SO₂ fugitive emissions on ambient air quality and the implementation of any necessary fugitive controls. The Miami area was subsequently classified by operation of law as nonattainment for the primary SO₂ standards by EPA following the enactment of the 1990 Clean Air Act Amendments. The nonattainment designation became effective on November 15, 1990.

To meet clean air act requirements applicable to smelters, the Miami facility in 1974, replaced its reverberatory furnace with an electric furnace, installed Hoboken converters to replace Pierce Smith converters, and installed a sulfuric acid plant to treat off gases from these vessels. These changes allowed the facility to come into compliance with the MPR regulations when they became effective. The MPR rules, which established stack emission limits for the smelters, were approved by EPA on January 14, 1983 (48 FR 1717). The Miami smelter came into full compliance with the MPR regulations by 1984. Since that time, the Miami facility has implemented improved process and control technology. An IsaSmelt® furnace and 528 ton per day oxygen plant were installed, as well as an upgrade of the existing double contact acid plant for treatment of process gas SO₂.¹⁰ On August 27, 1991, Cyprus Miami Mining, Incorporated, (predecessor to Phelps-Dodge Miami Inc.) submitted to ADEQ a study to partially fulfill outstanding SIP commitments for analysis of fugitive emissions. The study was implemented to describe SO₂ fugitive emission units and provide an estimate of fugitive emissions during typical smelter operation.

Subsequently, in 2001, Phelps-Dodge Miami Inc. conducted a further ambient impact analysis of maximum actual emissions (both stack and fugitive) in relation to resulting ambient concentrations. Based on this analysis, a 2002 rulemaking revised the SO₂ emission limits in Arizona Administrative Code (AAC) R18-2-715 and R18-2-715.01 (See **Appendix A**). The new limits include stack and total emission limits and provide a considerable margin of safety to ensure protection of the SO₂ NAAQS throughout the maintenance period to 2015, thus allowing the state to request the area be redesignated to attainment for SO₂.

⁹ Arizona Code of Rules and Regulations (ACRR): Rule (R)9-3-515 (recodified as Arizona Administrative Code (AAC) R18-2-715, Standards of Performance for Existing Primary Copper Smelters; Site-specific Requirements)

¹⁰ See **Chapter 6.0** for a more detailed description.

1.3 Physical, Demographic, and Economic Description of the Miami Area

1.3.1 Climate and Physiography

Both desert terrain and mountain ranges are found within Gila County's landscape. Elevations range from near 2,000 to more than 7,000 feet above sea level in the nonattainment area with the town of Miami situated at an elevation near 3,400 feet. This unique environment experiences both warm desert and cool alpine climates. In Miami, the hottest month of the year is July, when the average daily maximum temperature is 97° Fahrenheit (F). January is the coolest month with an average daily minimum temperature of 35° F.

Precipitation generally occurs in two seasons. The wettest month in Miami is August when monsoonal thunderstorms produce an average monthly total of 3.33" (inches) of rain. Pacific winter storms moving across the area in December produce monthly average of 2.40" of precipitation in the form of rain or snow. The driest month is May, with an average of 0.25" of rain. The average yearly precipitation is 18.00".

1.3.2 Population

Miami, a historic copper mining center, is located along U.S. Highway 60 in a steep canyon in the Pinal Mountains of southern Gila County. Miami is 80 miles southeast of Phoenix and 112 miles northeast of Tucson. Directly to the east of Miami is Globe, the County's second largest city and the Gila County seat.¹¹

The population of Miami declined from 3,394 in 1970 to 1,936 in 2000. This represents a population loss of 43 percent compared to Gila County's growth rate of more than 75 percent. In the 1970s, during which rural counties in the U.S. outpaced urban counties in population growth, the population of Miami declined 20 percent, contrasted to the growth in Gila County at almost 27 percent. During the 1980s, the population growth of Gila County significantly slowed to about one-third of its growth during the previous decade. Miami, however, continued to lose population at an even greater rate during the 1980s. Then, during the 1990s, when Gila County's growth exceeded its growth during the 1970s, the population of Miami seemed to have stabilized with a loss of only 4.1 percent. Decennial U.S. Census data for the Miami area and for Gila County are shown in Table 1.3.

Year	April 1, 1970	April 1, 1980	April 1, 1990	April 1, 2000
Miami	3,394	2,716	2,018	1,936 ¹²
Miami's decennial change		-20.0%	-25.7%	-4.1%
Globe	7,333	6,886	6,062	7,486

¹¹ Payson, located in north central Gila County, is the largest city with a 2000 Census population of 13,620.

¹² The 2000 Census shows a population of 1,936 with 930 housing units of which 754 are occupied (18.9 % vacant). The number of occupied housing units equals the number of households residing in Miami with 2.57 persons per household. Miami has no group quarters population.

Year	April 1, 1970	April 1, 1980	April 1, 1990	April 1, 2000
Globe's decennial change		-6.1%	-12.0%	23.5%
Claypool	2,245	2,362	1,942	2,214
Claypool's decennial change		5.0%	-22.0%	12.0%
Central Heights	2,289	2,791	2,969	3,313
Central Heights decennial change		18.0%	6.0%	10.0%
Gila County	29,255	37,080	40,216	51,335
Gila County's decennial change		26.7%	8.5%	27.7%

Source: U.S. Bureau of the Census, decennial census counts.

Arizona Department of Economic security (DES) population estimates are the official statistics for the state and differ slightly from the 2000 Census population counts. Table 1.4 portrays the projected growth of Miami, Globe, and Gila County in five-year increments from 2000 to 2015. According to DES data, Miami is expected to grow slightly at a rate of about 2 percent, while Globe's growth rate is expected to be higher at about 10 percent. In comparison, Gila County is expected to grow just over 18 percent during this same time period. The population of Miami is projected to be flat during this time period, compared to Gila County's projected growth rate of 18.5 percent during this 15-year time period.

Year	July 1, 2000	July 1, 2005	July 1, 2010	July 1, 2015
Miami	2,063	2,079	2,094	2,110
Globe	7,568	7,841	8,107	8,378
Claypool	2,214	2,215	2,216	2,217
Central Heights	3,313	3,436	3,556	3,681
Gila County	48,614	51,644	54,603	57,613

Source: Arizona Department of Economic Security, August 1, 1997.

1.3.3 Economy

Gila County was created in 1875 from portions of Maricopa and Pima Counties by the eighth territorial legislature. The county covers 5,371 square miles. The State of Arizona holds one percent of county land; individual and corporate ownership accounts for 4.1 percent of the land area; Indian reservations cover 38 percent; the U.S. Forest Service, Bureau of Land Management, and other Federal

Agencies hold approximately 56.9 percent combined. Gila County is a great source of mineral wealth. Silver originally attracted settlers to the area, but as the silver resources were depleted, copper was mined.

In general terms, economic activity in Gila County is divided into tourism in the north where Payson is located and into mining and related activities in the south where Miami and Globe are located. In addition, ranching comprises a significant portion of the area's economy. Miami also is a gateway to recreational areas, such as Roosevelt Lake and Tonto National Monument.

Retail trade and various service industries play a vital role in the local economy. According to the Arizona Department of Revenue, taxable sales, for example, have increased from \$6,869,400 in 1990 to \$8,771,267 in 1999. With increasing popularity of this area, demands for lodging, restaurants, retail businesses, and other businesses are expected to heighten (See **Table 1.5** for economic activity in Gila County).

The major local employer in Miami has been Phelps-Dodge Corporation that operates open pit copper mines as well as smelting facilities. A second major employer in the Miami area was BHP Billiton, which operates underground and open pit mines. Table 1.5 shows a selected time series of civilian labor force data for the Miami nonattainment area.

Table 1.5 - Civilian Labor Force Data for Miami Nonattainment Area					
Year	1990	1995	1998	1999	2000
Civilian Labor Force	754	6,805	6,552	6,363	6,125
Number Unemployed		1,924	1,715	1,618	1,251
Unemployment Rate	6.9%	7.3%	6.7%	6.6%	5.3%

Source: Arizona Department of Economic Security. Data represent annual averages. Numbers for 1999 and 2000 are preliminary.

Table 1.6 contains employment, expressed as percentages of total non-farm employees, for Gila County for 1994, 1997, and 2000. This table also includes a selected time series of civilian labor force data. Even though the labor force has been declining, the unemployment rate has declined somewhat since 1990. Approximately 20 percent of the labor force is related to mining and copper production.

Table 1.6 - Economic Activity in Gila County by Number of Employees: 1994, 1997, and 2000			
Economic activity	1994	1997	2000
Civilian labor force	17,658	18,450	17,175
Unemployment	1,575	1,450	1,000
Unemployment rate	8.6%	7.9%	5.8%
Total employment	16,575	17,000	16,175
Non-farm employment	13,100	14,350	14,225

Table 1.6 - Economic Activity in Gila County by Number of Employees: 1994, 1997, and 2000			
Economic activity	1994	1997	2000
Mining and quarrying	900	325	700
Construction	800	900	1,050
Manufacturing	1,600	1,675	1,075
Trans., Communication and Pub. Utilities	400	525	500
Trade	3,100	3,500	3,325
Finance, Insurance and Real Estate	300	225	275
Services and misc.	2,700	2,800	2,575
Government	3,000	4,400	4,725

Source: Derived from Arizona Department of Economic Security data.

1.4 General SIP Approach

In November 1990, the United States Congress enacted a series of amendments to the Clean Air Act (CAA) intended to improve air quality across the nation. One of the primary goals of this comprehensive revision to the CAA was to expand and clarify the planning provisions for those areas not currently meeting the NAAQS. The CAA as amended identifies specific emission reduction goals, requires both a demonstration of reasonable further progress and attainment, and incorporates more stringent sanctions for failure to attain or to meet interim milestones.

CAA, Title I, Part A, and Title I, Part D, Subparts 1 and 5 are applicable to this SIP and maintenance plan. Sections 172, 175(A), 191, and 192, in the following section, set forth the following requirements for nonattainment areas.

1.4.1 CAA Section 172(c), Nonattainment Plan Provisions

172(c)(1) - In General: “...implementation of all reasonably available control measures (RACM) as expeditiously as practicable (including such reductions in emissions for existing sources in the area as may be obtained through the adoption, at a minimum, of reasonably available control technology (RACT)) and provide for attainment of the national primary ambient air quality standards.”

Phelps-Dodge, the primary source of SO₂ emissions in the Miami nonattainment area, succeeded in implementing RACM/RACT at levels sufficient to attain the NAAQS for SO₂, going beyond the required technology to increase the facility’s efficiency in capturing and treating SO₂. RACT for SO₂ emission controls for a smelting furnace include:

1. Wet Scrubber,

2. Minimization of Leaks,
3. Hooding and venting of gases to the stack, and
4. Contact Sulfuric Acid Plant.

Chapter 6 contains further explanation of applicable RACM/RACT for the Phelps-Dodge smelting facility and other SO₂ point sources in the nonattainment area.

172(c)(2) - Reasonable Further Progress (RFP): "...plan provisions shall demonstrate reasonable further progress such that annual incremental reductions in emissions ensure attainment of the national ambient air quality standards by the applicable date."

This submittal demonstrates that the Miami nonattainment area has obtained and will maintain the SO₂ NAAQS with current control measures (See Chapter 6).

172(c)(3) - Inventory: "...the plan shall include a comprehensive inventory of actual emissions from all sources of relevant pollutant(s)."

ADEQ maintains a historical and current database of actual emissions from State-permitted point and area sources. All non-permitted source emissions data (ie: mobile sources) is obtained from EPA's national emissions inventory.¹³ Base-year emissions 2000 and projected emissions (2015) are contained in Chapter 3.

172(c)(5) - Permits for New and Modified Major Stationary Sources: "...the plan shall require permits for the construction and operation of new and modified major stationary sources throughout the nonattainment area."

All new sources and modifications to existing sources in Arizona are subject to state requirements for preconstruction review and permitting pursuant to AAC, Title 18, Chapter 2, Articles 3 and 4. All new major sources and major modifications to existing major sources in Arizona are subject to the New Source Review (NSR) provisions of these rules or Prevention of Significant Deterioration (PSD) for maintenance areas. The State NSR program was conditionally approved by EPA in 1992, and is pending final approval. It should be noted that ADEQ currently has full approval of its Title V permit program.

172(c)(6) - Other Measures: "...the Plan shall include enforceable emissions limitations and such other control measures, means or techniques, as well as schedule and timetables for compliance, as may be necessary or appropriate to provide for attainment of such standard in such area by the applicable attainment date."

AAC R18-2-715, Standards of Performance Primary Copper Smelters, Site Specific Requirements, contains the required annual average emission limitations and number of three-hour average emission limits for the Phelps-Dodge smelter.¹⁴ AAC R18-715.01 (Standards of Performance for Existing Primary Copper Smelters; Compliance and Monitoring), set forth the compliance date of January 14, 1986, for monitoring, calibration, measurement system performance requirements, record keeping, bypass

¹³ AIRData provides access to air pollution data for the entire United States and can be found at: <http://www.epa.gov/air/data/index.html>

¹⁴ Standards of Performance for Existing Primary Copper Smelters; Site-specific Requirements, AAC R18-2-515, renumbered AAC R18-2-715 (1993).

operation, and issuance of notices of violation. Details regarding emissions limitations and control measures for all SO₂ sources in the nonattainment area may be found in Chapter 4.

172(c)(7) - Compliance with Section 110(a)(2): “...the Plan shall be in compliance with Section 110 (a)(2) (Implementation Plans) of CAA.”

Section 110(a)(2)(A) of CAA requires that states provide for enforceable emission limitations and other control measures, means, or techniques, as well as schedules for compliance. Chapter 4 includes the list of control measures utilized to bring this area into attainment and future maintenance of the SO₂ NAAQS.

Section 110(a)(2)(B) of CAA requires that states provide for establishment and operation of appropriate devices, methods, systems, and procedures necessary to monitor, compile, and analyze data on ambient air quality. Under ADEQ’s air quality assessment program, ambient monitoring networks for air quality are established to sample pollution in a variety of representative settings, to assess the health and welfare impacts and to assist in determining air pollution sources. The monitoring sites are combined into networks, operated by a number of government agencies and regulated companies. Each network is comprised of one or more monitoring sites, whose data are compared to the NAAQS, as well as statistically analyzed in a variety of ways. The agency or company operating a monitoring network also tracks data recovery, quality control, and quality assurance parameters for the instruments operated at their various sites.

The collected data are summarized into the appropriate quarterly or annual averages. The samplers are certified by Federal Reference or Equivalent Methods. Regular checks of the stability, reproducibility, precision, and accuracy of the samplers and laboratory procedures are conducted by either the agency or company network operators. The protocol for SO₂ monitoring used by the State, local agencies, and companies was established by EPA in the following sections of the Code of Federal Regulations (CFR):

1. 40 CFR Part 50, Appendix A, Reference Method for the Determination of Sulfur Dioxide in the Atmosphere;
2. 40 CFR Part 53, Subpart B, Procedures for Testing Performance Characteristics of Automated Methods for SO₂, CO, O₃, and NO₂; and
3. 40 CFR Part 58, Subpart A, B, and C, Ambient Air Quality Surveillance.

(Chapter 2 includes monitoring network information and data for the Miami area.)

Section 110 (a)(2)(C), Section 110 (a)(2)(E), Section 110 (a)(2)(F), and Section 110 (a)(2)(L) of CAA require states to have permitting, compliance, and source reporting authority. Arizona Revised Statutes (ARS) § 49-402 establishes ADEQ’s permitting and enforcement authority. As authorized under ARS 49-402, ADEQ retains adequate funding and employs adequate personnel to administer the air quality program. Appendix A includes the organization chart for ADEQ’s Air Quality Division.

Under ADEQ’s air permits program, stationary sources that emit regulated pollutants in significant quantities are required to obtain a permit before constructing, changing, replacing, or operating any equipment or process which may cause air pollution. This includes equipment designed to reduce air pollution. Permits are also required if an existing business that causes air pollution transfers ownership, relocates, or otherwise changes operations. Additionally, ADEQ is responsible for assessing annual fees to recoup the costs of administering a permit pursuant to AAC R18-2-326.

Rule R18-2-327 requires that any source subject to a permit must complete and submit to the Director their responses to an annual emissions inventory questionnaire. A current air pollutant emissions inventory of both permitted and non-permitted sources within the state is necessary to properly evaluate the air quality program effectiveness, as well as determine appropriate emission fees for major sources. This inventory encompasses those sources under state jurisdiction emitting 1 ton per year or more of any individual regulated air pollutant, or 2.5 tons per year (tpy) or more of any combination of regulated air pollutants.¹⁵ ADEQ is responsible for the preparation and submittal of an emissions inventory report to EPA for major sources and emission points prescribed in 40 CFR 51.322, and for sources that require a permit under ARS §49-426 for criteria pollutants.

Under ADEQ's air quality compliance program, scheduled and unscheduled inspections are conducted at the major sources annually. ADEQ's Air Compliance Section implements compliance assistance initiatives to address non-compliance issues (i.e., seminars and workshops for the regulated community explaining the general permit requirements, individual inspections of all portable sources within a geographical area, mailings, etc.). In addition, compliance initiatives are developed to address upcoming or future requirements (i.e., new general permits) and include such actions as training for inspectors; development of checklists and other inspection tools for inspectors; public education workshops; targeted inspections; mailings, etc. ADEQ's Air Compliance Section also has an internal performance measure to respond to all complaints as soon as possible, but within five working days.

Section 110(a)(2)(G) of CAA requires that states provide for authority to establish emergency powers and authority and contingency measures to prevent imminent endangerment. AAC R18-2-220 prescribes the procedures the Director of ADEQ shall implement in order to prevent the occurrence of ambient air pollution concentrations which would cause significant harm to the public health. As authorized by ARS §49-426.07, ADEQ may seek injunctive relief upon receipt of evidence that a source or combination of sources is presenting an imminent and substantial endangerment to public health or the environment.

172(c)(8) - Equivalent Techniques: "...the Plan may use equivalent techniques such as equivalent modeling, emission inventory, and planning procedures allowed by the administrator, upon application by any state."

Multi-Point Rollback modeling was used with EPA's concurrence to establish emissions limits for the Phelps-Dodge smelter and updated as part of the current SIP process. Modeling for the fugitive emissions study at this facility was conducted with models from EPA's "Guideline on Air Quality Models."

172(c)(9) - Contingency Measures: "...the Plan shall provide for the implementation of specific measures to take effect without further action by the state or the Administrator in the event the area fails to make reasonable further progress (RFP) or to attain the primary national ambient air quality standards (NAAQS)."

As noted in 172(c)(2) above, this submittal includes monitoring data and source permit information

¹⁵ "Regulated air pollutant" is defined in AAC R18-2-101 as any of the following: (a) Any conventional air pollutant as defined in ARS §49-401.01; (b) Nitrogen oxides and volatile organic compounds; (c) Any air contaminant that is subject to a standard contained in Article 9 of Chapter 2; (d) Any hazardous air pollutant as defined in ARS §49-401.01; (e) Any Class I or II substance listed in Section 602 of the Act.

that demonstrate that the applicable area has obtained, and will maintain, the SO₂ NAAQS with control measures currently fully implemented. As such, the RFP requirement is met.

1.4.2 CAA Section 175(A) - Maintenance Plans

175(A)(a) - Plan Revisions: “...each state which submits a request for redesignation of a nonattainment area shall also submit a revision of the applicable SIP to provide for the maintenance of the NAAQS for at least ten years after the redesignation.”

As documented in Chapter 7, this submittal shows attainment through 2015.

175(A)(b) - Subsequent Plan Revisions: “...eight years after redesignation as an attainment area, the State shall submit an additional revision of the applicable SIP for maintaining the NAAQS for 10 years after the expiration of the 10-year period referred to in subsection (a).”

ADEQ commits to submit an additional SIP revision eight years after redesignation.

175(A)(c) - Nonattainment Requirements Applicable Pending Plan Approval: “...until such plan revision is approved and an area is redesignated as attainment for any area designated nonattainment, the requirements of this part shall continue in force and effect.”

ADEQ commits to keeping all applicable measures in place.

175(A)(d) - Contingency Provisions: “...each plan revision submitted under this section shall contain such contingency provisions to assure that the State will promptly correct any violation of the standard which occurs after the redesignation of the area as an attainment area. Such provisions shall include a requirement that the State will implement all measures with respect to the control of the air pollutant concerned before redesignation.”

ADEQ commits to implementing all identified measures as necessary (See Chapter 7).

1.4.3 CAA Section 191 and 192 - Plan Submission and Attainment Dates

This document fulfills all outstanding implementation plan requirements for the Miami SO₂ nonattainment area. With the submittal of this SIP and Maintenance Plan, ADEQ requests redesignation of the Miami nonattainment area to attainment.

1.4.4 Conformity Provisions

Section 176(c)(1)(A) of CAA requires SIPs to contain information regarding the State’s compliance with conformity requirements. As stated in 40 CFR 93.153(a), "Conformity determinations for Federal actions related to transportation plans, programs and projects developed, funded, or approved under title 23 U.S.C. or the Federal Transit Act (40 U.S.C. 1601 et seq.) must meet the procedures and criteria of 40 CFR part 51, subpart T, in lieu of the procedures set for in this subpart." 40 CFR 93.103(b) waives transportation conformity for SO₂ nonattainment areas, but general conformity for the Miami, Gila County area must still be addressed to assure SO₂ emissions from any Federal actions or plans do not

exceed the rates outlined in 40 CFR 93.153(b)(1) for nonattainment areas or 40 CFR 93.153(b)(2) for maintenance areas. Criteria for making determinations and provisions for general conformity as outlined in 40 CFR 93.153 can be located in R18-2-1438 of the Arizona Administrative Code. There are no federal plans or actions affecting air quality currently in the Miami, Gila County area, nor are any foreseen through the year 2015.

2.0 COMPLIANCE WITH OTHER FEDERAL REGULATIONS

The provisions of 40 CFR 60 Subpart P (§§60.160 - 60.166) Standards of Performance for Primary Copper Smelters are applicable to dryer, roaster, smelting furnace, and copper converter equipment in primary copper smelters.¹⁶ Any facility that commences construction or modification after October 16, 1974, is subject to the requirements of this subpart. The Miami smelter was modified in 1991/1992 when an IsaSmelt® furnace and oxygen plant were installed and upgrades to the acid plant were completed. ADEQ compliance, permit, monitoring, technical, and correspondence files indicate that the facility has complied with all the requirements of this subpart.

¹⁶ Source: 41 FR 2338, Jan. 15, 1976, unless otherwise noted.

3.0 SO₂ MONITORING NETWORK

Monitoring began in the Miami area in 1970 by the State of Arizona.¹⁷ Phelps-Dodge began continuous ambient SO₂ air quality monitoring in the late 1970's. An extensive monitoring network was established with sufficient spatial and temporal coverage to comprehensively evaluate the ambient impact of smelter emissions. More than sixteen stationary monitoring sites were established throughout the area with as many as seven monitors operating concurrently (See **Table 3.1** and **Figure 3.1**).¹⁸ This ambient SO₂ network, comprised of EPA, State, and Phelps-Dodge monitors, was developed as the result of extensive efforts to identify maximum ambient impact areas using diffusion modeling, monitored atmospheric dispersion parameters, citizen observations, and ambient SO₂ monitoring.

Table 3.1 - Ambient Monitoring Network	
Monitor	Period of Operation
Lower Miami ¹⁹	1975-1982
Claypool	1970-1973
Inspiration	1973-1974
Fire Station	1974
Jones Ranch (state)	1974-1994
Jones Ranch	1981-present
Ridgeline - Linden St. (state)	1995-present
Bohme Ranch	1977
Ice House	1977
Miami City Services Building	1978-1989
County Landfill	1978-1982
Townsite	1981 - present
Burch	1981-1996
2 miles southeast of smelter ²⁰	1982-1989
Miami E	1971

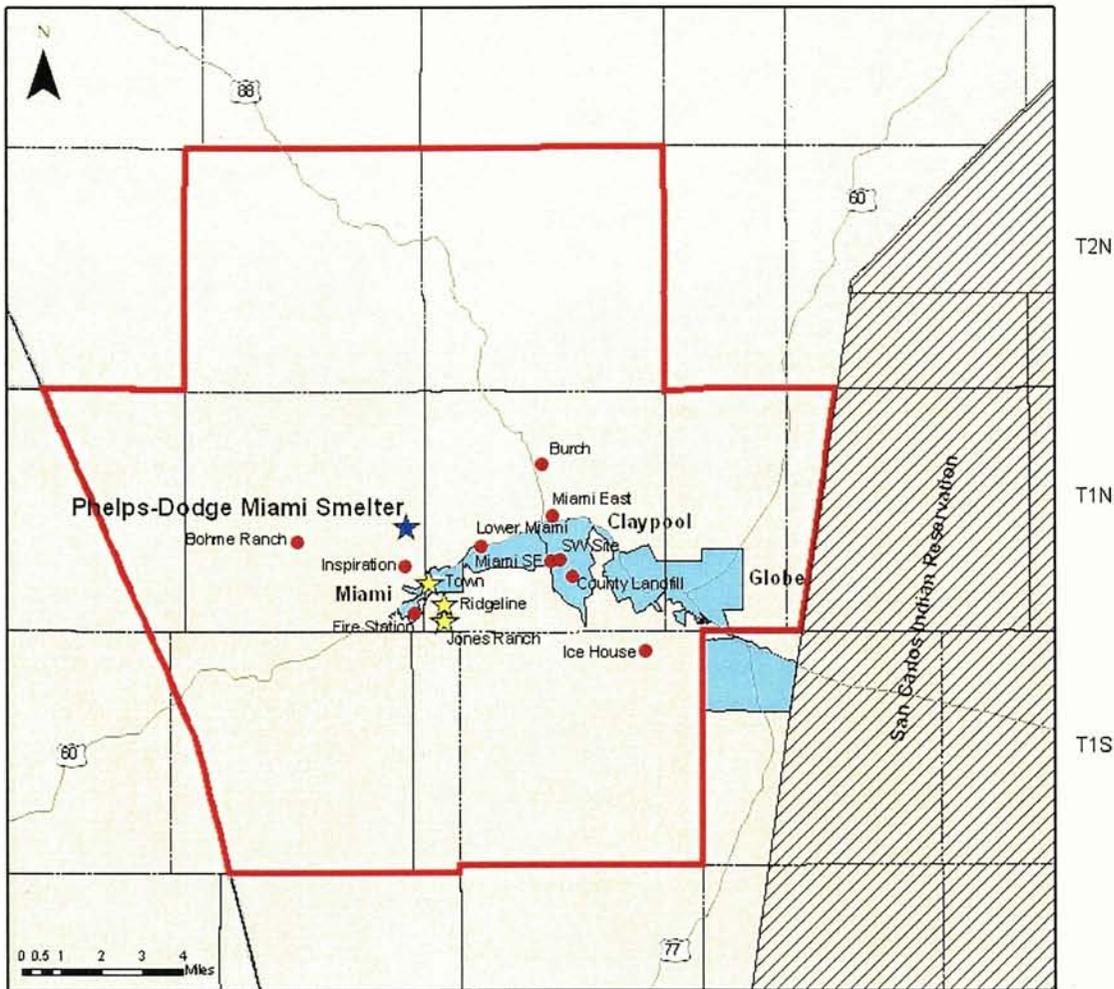
¹⁷ *Sulfur Dioxide Monitoring Network Study*, Arizona State Department of Health, Environmental Health Services, Division of Air Pollution Control, 1974.

¹⁸ Protocols for SO₂ monitoring established by EPA are found in 40 CFR Part 50, Appendix A, *Reference Method for the Determination of Sulfur Dioxide in the Atmosphere*, Part 58, Subpart B, §58.14, *Special Purpose Monitors*, Subpart C, §58.20, *State and Local Air Monitoring Stations*, *Air Quality Surveillance: Plan Content*, and Subpart D, §58.30, *National Air Monitoring Stations (NAMS)*.

¹⁹ AKA: George Washington School

²⁰ AKA: Little Acres

Figure 3.1 Miami SO2 Nonattainment Area Monitor Locations



R13E R14E R15E R16E

Legend

- ★ Phelps-Dodge Miami Smelter
- Monitoring Locations
- Roads
- ▨ San Carlos Indian Reservation
- ▭ ADEQ Boundary Designation
- ▭ City Limits

DISCLAIMER: This map is for reference purposes only. A more detailed description of the study area can be obtained by calling the Arizona Department of Environmental Quality.

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Date: April 4, 2002



Additional installation of meteorological instrumentation at the network sites, measuring wind speed and direction, temperature, and humidity parameters helped to further define airflow and pollutant transport in the region. Utilization of mobile monitors allowed evaluation and verification of ambient SO₂ concentrations over a greater area. Numerous sites were monitored and subsequently relocated under the direction of state meteorologists when no significant impacts were observed. All monitoring for SO₂ was performed with guidance and dispersion modeling analysis from the Arizona Department of Health Services, Bureau of Air Quality Control.

The monitoring network was also developed in accordance with Supplementary Control Systems (SCS). Prior to implementation of continuous control technology, SCS utilized analysis of atmospheric conditions and monitored ambient concentrations to vary the rate of smelter emissions to avoid any exceedance of the NAAQS. In 1977, the state adopted rules that codified requirements for concurrent operation of at least eight ambient monitors, including a mobile monitor placed at points representative of observed maximum concentrations. Relocation of a stationary monitor was allowed only when:

1. There were no ambient SO₂ violations recorded;
2. No SCS curtailment actions were implemented due to data recorded at that monitor;
3. The foregoing conditions were due to implementation of improved emissions control techniques or other permanent modifications; and
4. A new site was shown to be more representative of the ambient air quality of the area.

Historic ambient SO₂ monitoring site locations and periods of operation are provided in Table 3.1, and Figure 3.1 and 3.2.

Further refinement of the monitoring network was required by the adoption in 1979 of the MPR rule that established stack emissions limits for the smelter based on permanent controls. Placement of additional monitors were established with EPA to further evaluate ambient impacts.

Following Phelps-Dodge's compliance with emissions limits as defined in AACR18-2-715(F), based on continuous control technology, the number of permanent monitors was gradually reduced to the current network of three, which are all high impact ambient monitor sites and representative of air quality for the area (See **Table 3.2**). These monitoring site changes were made with ADEQ concurrence and in accordance with EPA guidance.

Unit ²¹	Location	Elevation (feet above sea level)	Operator
Jones Ranch ²²	2.05 miles from smelter	4,094	Phelps-Dodge
Ridgeline	1.00 mile from smelter	3,560	ADEQ
Townsite	1.49 miles from smelter	3,390	Phelps-Dodge

²¹ The Jones Ranch, Ridgeline, and Townsite monitors are combined stack and fugitive emissions impact sites.

²² Ambient sulfur dioxide monitoring at Jones Ranch began in 1974. This monitor was the "limiting site" for the original MPR analysis ("*Ultimate Sulfur Dioxide Limits for Arizona Copper Smelters*," Moyers and Peterson, September 14, 1979).

3.1 Current Sampler Type and Siting

The two monitoring units operated by Phelps-Dodge are Thermo Electron pulsed fluorescent (TECO) Model 43A and 43B SO₂ analyzers. These SO₂ analyzers are interfaced to Phelps-Dodge Miami's data acquisition system by telemetry. The TECO analyzers measure in the 0-2 ppm range. Redundant recording systems are operated for all of the Phelps-Dodge analyzers. The samplers are connected to strip chart recorders for backup and analyzed by planimeter as necessary for validation of recorded concentrations. The ADEQ SO₂ analyzer is a Thermo pulse fluorescence analyzer (model 43 C), measuring in the 0-2 ppm range. The Phelps-Dodge and ADEQ monitors are operated and maintained in accordance with federal regulations as described in 40 CFR parts 58.13 and 58.22 as well as Appendices A and E of part 58. **Figure 3.2** on the following page illustrates the ambient SO₂ monitors that comprise the current Miami area network.

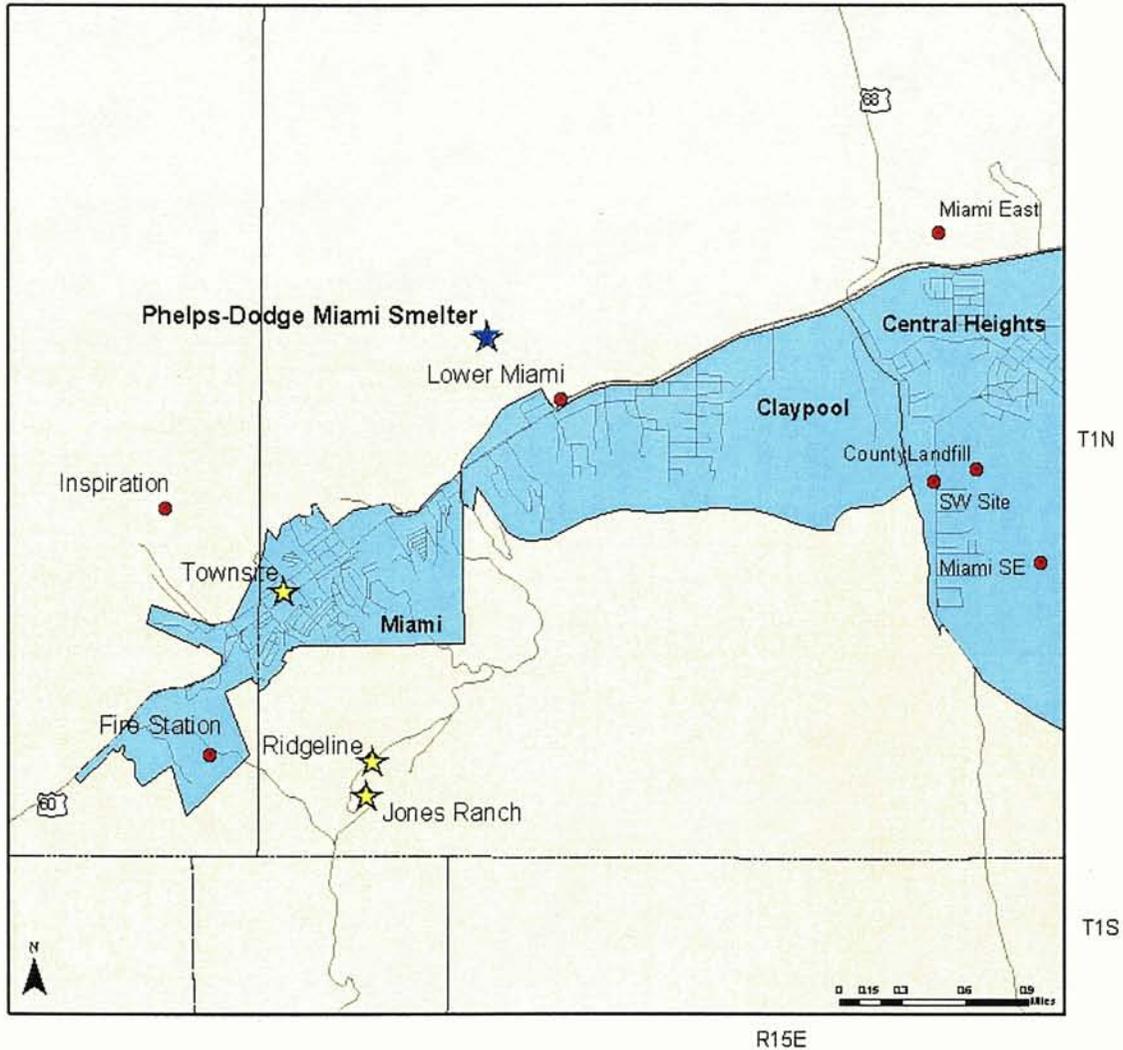
3.2 Ambient Data Analysis

A review of the SO₂ monitoring data in the Miami nonattainment area verifies that:

1. There have been no recorded exceedances of the annual NAAQS for SO₂ since 1977 and annual averages are generally below 20 percent of the NAAQS;
2. There have been no recorded exceedances of the 24-hour NAAQS for SO₂ since 1985 and maximum 24-hour average SO₂ levels are generally below 40 percent of the NAAQS; and
3. There have been no recorded exceedances of the 3-hour NAAQS for SO₂ since 1987 and maximum 3-hour averages are generally below 70 percent of the NAAQS.

The nonattainment area has recorded more than eight, consecutive, quarters of quality assured, violation-free data from January 1999 through December 2000. Data for the current monitoring network is presented in Table 3.3.

**Figure 3.2 Miami SO2 Nonattainment Area
Magnification of Monitor Locations**



Legend

-  Phelps-Dodge Miami Smelter
-  Current Monitoring Locations
-  Historic Monitor Locations
-  Roads
-  City Limits

DISCLAIMER: This map is for reference purposes only. A more detailed description of the study area can be obtained by calling the Arizona Department of Environmental Quality.

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Location Map

The location map shows the outline of the state of Arizona, with a small red dot indicating the location of the Miami SO2 Nonattainment Area in the southeastern part of the state.

Table 3.3 - SO ₂ Ambient Air Quality Monitoring Data ($\mu\text{g}/\text{m}^3$)							
Year	Annual Ave.	24-Hour Max	3-Hour Max	Number of Exceedances			No. of 1-hr. Samples
				Annual (> 80 $\mu\text{g}/\text{m}^3$)	24-hr. (> 365 $\mu\text{g}/\text{m}^3$)	3-hr. (> 1300 $\mu\text{g}/\text{m}^3$)	
Jones Ranch ²³							
2000	11	133	895	0	0	0	8554
1999	8	152	897	0	0	0	8582
1998	10	123	840	0	0	0	8738
1997	10	138	820	0	0	0	8750
1996	11	146	593	0	0	0	8774
1995	8	122	433	0	0	0	8760
1994	8	166	527	0	0	0	8760
1993	7	120	803	0	0	0	8760
1992	6	95	537	0	0	0	8760
1991	15	160	890	0	0	0	8760
1990	12	132	730	0	0	0	8760
1989	15	136	750	0	0	0	8760
1988	17	172	723	0	0	0	8760
1987	17	313	2073	0	0	1	8760
1986	17	150	540	0	0	0	8760
1985	36	368	2537	0	1	6	8760
1984	42	688	4637	0	4	12	8754
1983	31	350	5139	0	1	6	7450
1982	76	991	7556	0	17	33	8370
1981	76	1084	6177	0	9	22	8614
1980	30	563	3993	0	5	11	8584
1979	79	1501	7394	0	17	46	8596
1978	64	985	4565	0	2	2	8012

²³ Data prior to 1984 was recorded at the state operated Jones Ranch monitor.

Table 3.3 - SO ₂ Ambient Air Quality Monitoring Data (µg/m ³)							
Year	Annual Ave.	24-Hour Max	3-Hour Max	Number of Exceedances			No. of 1-hr. Samples
				Annual (> 80 µg/m ³)	24-hr. (> 365 µg/m ³)	3-hr. (> 1300 µg/m ³)	
Jones Ranch, con't²⁴							
1977	84	1285	5737	1	2	2	8071
1976	56	767	4450	0	2	2	8044
1975	51	2642	8900	0	2	2	8061
1974	170	1785	5992	1	10	19	1096 ²⁵
Ridgeline							
2000	16	70	309	0	0	0	8423
1999	13	65	200	0	0	0	8264
1998	8	40	175	0	0	0	8347
1997	5	92	524	0	0	0	8082
1996	8	110	338	0	0	0	7972
1995	10	89	244	0	0	0	7972
Townsite							
2000	8	76	483	0	0	0	8776
1999	8	72	263	0	0	0	8754
1998	2	28	210	0	0	0	8739
1997	3	57	417	0	0	0	8748
1996	5	65	360	0	0	0	8776
1995	6	56	280	0	0	0	8760
1994	4	42	273	0	0	0	8760
1993	4	58	237	0	0	0	8760
1992	4	52	383	0	0	0	8760
1991	5	64	453	0	0	0	8760
1990	4	54	430	0	0	0	8760

²⁴ Data prior to 1984 was recorded at the state operated Jones Ranch monitor.

²⁵ Monitor was in operation part of the year.

Table 3.3 - SO ₂ Ambient Air Quality Monitoring Data (µg/m ³)							
Year	Annual Ave.	24-Hour Max	3-Hour Max	Number of Exceedances			No. of 1-hr. Samples
				Annual (> 80 µg/m ³)	24-hr. (> 365 µg/m ³)	3-hr. (> 1300 µg/m ³)	
Townsite, con't							
1989	7	61	387	0	0	0	8760
1988	9	64	513	0	0	0	8760
1987	14	70	493	0	0	0	8760
1986	17	100	260	0	0	0	8760
1985	20	270	1690	0	0	1	8760
1984	29	360	2083	0	0	1	8784
1983	12	423	3320	0	1	1	5304
1982	30	790	3380	0	4	11	N/A
1981	45	360	1800	0	0	3	N/A

4.0 SO₂ EMISSIONS INVENTORY FOR POINT, AREA AND MOBILE SOURCES

Emissions inventories from all sources in the Miami nonattainment area indicate that although there are other sources of SO₂ emissions, the Miami smelter is the primary source for SO₂ emissions and comprises more than 99 percent of total SO₂ emissions in the area. Data shows that no other point, area or mobile sources have contributed or contribute to the same levels of SO₂ in the Miami nonattainment area. Emissions units and rates, and derivation of mobile and area source emissions for the nonattainment area are described in Section 4.1 through Section 4.3 below.

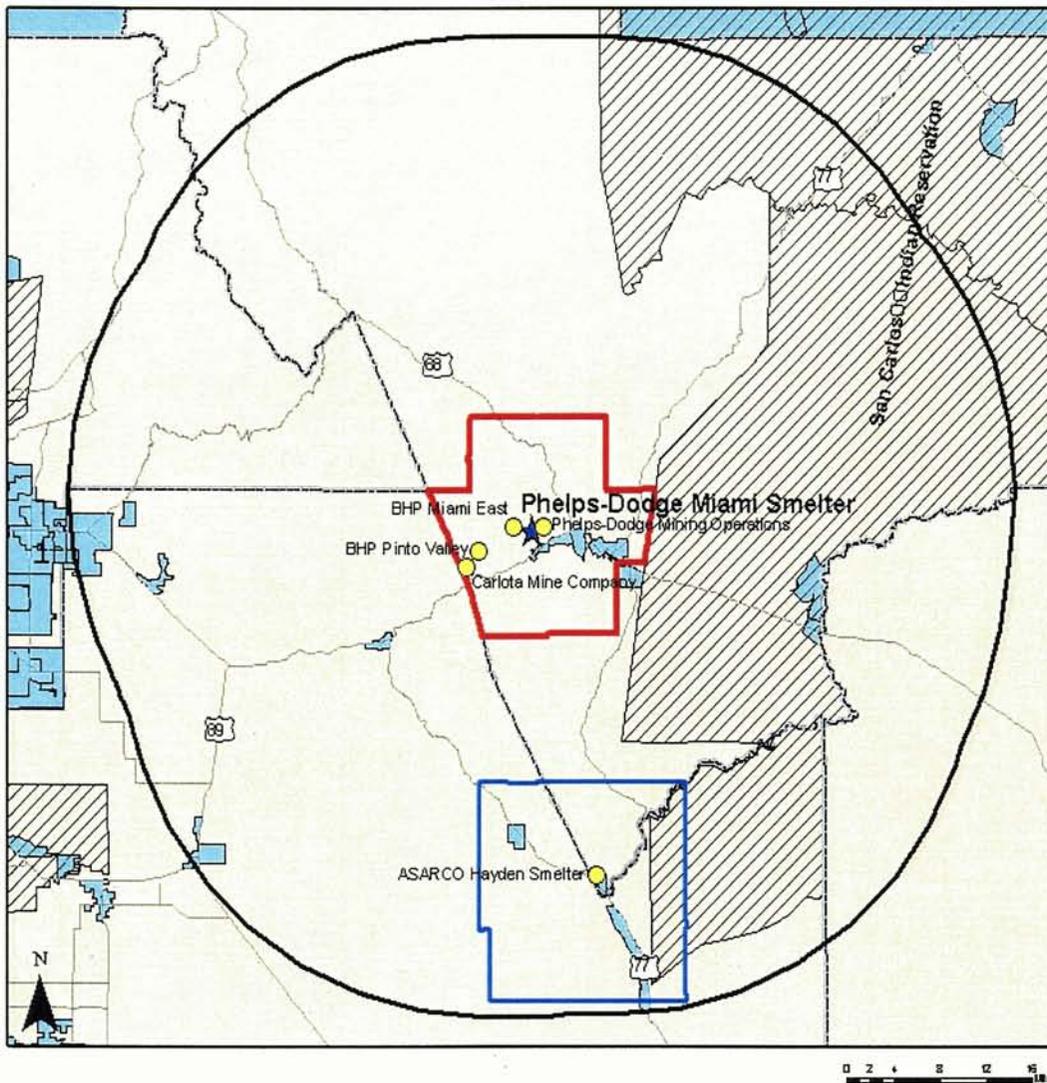
4.1 SO₂ Point Sources within the Miami nonattainment area

Five point sources are located within the Miami nonattainment area. Point source locations are illustrated in Figure 4.1. Attainment year inventories for these sources are presented in Table 4.1. Unless otherwise indicated, all 24-hour inventories are averages based on the number of operating hours for each respective year.

Table 4.1 - Actual SO₂ Emissions for Miami Nonattainment Area - Point Sources			
Source Name:		1999	2000
BHP Copper Pinto Valley Unit	24 Hr. (tpd)	< 1	< 1
	Annual (tpy)	< 1	< 1
BHP Copper Miami Unit	24 Hr. (tpd)	< 1	< 1
	Annual (tpy)	< 1	< 1
Carlota Copper Company	24 Hr. (tpd)	0	0
	Annual (tpy)	0	0
Phelps-Dodge Miami Mine	24 Hr. (tpd)	< 1	< 1
	Annual (tpy)	7	4
Phelps-Dodge Miami Smelting Operations²⁶	24 Hr. (tpd)	22	21
	Annual (tpy)	7,819	6,810
24 Hour Total (tpd):		< 23	< 22
Annual Total (tpy):		7,826	6,814

²⁶ 24-hour inventories are a ton per day (tpd) average calculated by dividing the annual facility emissions by the number of operating days for each year.

Figure 4.1 Location of All Point Sources Within the Miami SO₂ Nonattainment Area and Major Point Sources Within the 50 Kilometer Buffer



Legend

- ★ Phelps-Dodge Miami Smelter
- SO₂ Point Sources
- SO₂ 50 Kilometer Buffer
- Miami SO₂ Nonattainment Area
- ADEQ Boundary Designation
- City Limits
- ▨ San Carlos Indian Reservation

DISCLAIMER: This map is for reference purposes only. A more detailed description of the study area can be obtained by calling the Arizona Department of Environmental Quality.

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Filepath: /home/ch3/so2/miami.mxd
 Date: February 4, 2002

Location Map

4.1.1 BHP Copper, Pinto Valley

An integrated copper production facility, BHP Copper, Pinto Valley, is an open pit sulfide ore mining and milling operation where copper sulphide ore is prepared for smelting and refining. Additional activities include, oxide ore heap leaching and solvent extraction-electrowinning operations. The primary source of SO₂ emissions from this facility are natural gas and diesel burning equipment that includes generators and boilers. Permits for the mine require the use of low sulfur diesel, natural gas or propane in the generators, and the potential to emit (PTE) for all existing equipment is 6.035 tpy when burning diesel, 0.08 tpy when burning natural gas, and 0.012 tpy when burning propane. Actual emissions, are minimal, at less than one tpy.

4.1.2 BHP Copper, Miami East Unit

This source is a mining and copper ore processing facility. The BHP Copper Miami Unit is an underground and open pit sulfide ore mining and oxide ore extraction operation. Currently production at the facility is limited to oxide ore solvent extraction-electrowinning operations. The primary source of SO₂ emissions from this facility are natural gas burning equipment that includes boilers. The permit for the mine requires the use of low sulfur natural gas and limits the potential emissions from all existing equipment to 0.03 tpy of SO₂.

4.1.3 Carlota Copper Company Mine

This proposed facility is expected to include three open pits, three mine rock storage areas, a primary and secondary crusher, and a solvent extraction-electrowinning facility. Mine operations will include drilling, blasting, loading, transport, extraction and stripping of the mined ore. The primary source of SO₂ emissions from this facility will be from burning diesel fuel in generators and a boiler. The total PTE for this facility is 1.22 tpy. The permit limits the hours of operation for the generator engines (438 hrs/yr.), the boiler (6,000 hrs/yr.) and the process rate for the entire facility (125,000 tpd and 22 MM tpy).

4.1.4 Phelps-Dodge Miami Mine

The Phelps-Dodge Miami Mine is a mining and copper ore processing facility that includes open pit oxide ore extraction operations. Currently production at the facility is limited to oxide ore solvent extraction-electrowinning operations. The primary source of SO₂ emissions from this facility are natural gas and diesel burning equipment that includes regular and emergency generators and boilers.²⁷ The permit for the mine lists potential to emit as 1.77 tpy when burning natural gas, 227.5 tpy when burning fuel oil with less than 0.5% sulfur content, and 24.09 tpy when burning fuel oil with less than 0.05% sulfur content.²⁸

²⁷ Per EPA policy for emergency generators, emission calculations are based on 500 hours of operation, and this is considered the "worst-case" scenario for use in one year.

²⁸ As the calculations indicate, when burning fuel oil #2 (.5% sulfur content), there is a potential for SO₂ emissions to be higher than the major source threshold of 100 tpy. This means that while burning this fuel oil, the source could potentially trigger major source permitting requirements. To avoid this, the source has voluntarily accepted facility-wide emissions limitations and

Potential SO₂ emissions are listed at 149 tpy for boilers and 2.8 tpy for tankhouses, although actual emissions, are minimal, at 7.0 tpy. The permit, however, limits SO₂ emissions to 74.33 tpy for boilers and limits emissions from all existing equipment to 92.13 tpy.

4.1.5 Phelps-Dodge Miami Smelter

Smelting and refining of copper ore at Phelps-Dodge Miami's primary copper smelter produces copper cathode as well as byproducts of the smelting process (sulphuric acid and precious metals) for sale to customers. Copper rod is also produced at this location in a rod plant. Based on 2000 emissions data, the majority of this facility's emissions are from the following stack and fugitive units: acid plant tail gas stack; vent fume stack; emergency stack; and fugitive emissions from the IsaSmelt[®] and electric furnace, converters, and anode refining. The maximum allowable annual average SO₂ emission rate for stacks was reduced from 3,163 lbs/hr to 604 lbs/hr with recent revisions to AAC R18-2-715(F). The revisions also limited annual average emissions for combined stack and fugitive units to 2,420 lbs/hr or 10,368 tpy.²⁹

In addition, the permit limits sulfur content and usage rates for fuel used in all fuel burning equipment. Emissions units and rates for Phelps-Dodge Miami smelter are detailed in Appendix B.

4.2 Major Point Sources within the 50 km Buffer Area

In addition to the sources located within the nonattainment area, there are several SO₂ point sources within 50 kilometers of the Miami nonattainment area. There is no information to suggest that emissions from these sources have contributed to the same levels of SO₂ in the nonattainment area as the Miami smelter or that emissions from these sources could cause violations in the Miami nonattainment area. Attainment year inventories are provided in Table 4.2. The 24-hour inventories are a ton per day (tpd) average calculated by dividing the annual facility emissions by the number of operating days for each year.

Table 4.2 - Actual SO₂ Emissions within 50km of the Miami Nonattainment Area - Major Point Sources			
Source Name:		1999	2000
ASARCO Hayden Smelter³⁰	24 Hr. (tpd)	58	47
	Annual (tpy)	21,081	15,934
24 Hour Total (tpd):		58	47
Annual Total (tpy):		21,081	15,934

separate limit for the boilers.

²⁹ The original permit calculated the annual average limits based on 357 days of operation.

³⁰ 24-hour inventories are a ton per day (tpd) average calculated by dividing the annual facility emissions by the number of operating days for each year.

4.2.1 ASARCO Hayden Smelter

The Hayden primary copper smelter is located 46 kilometers south of the Miami smelter and is geographically separated from the Miami area by the 7,000 foot Pinal Mountains. The Hayden facility operates a flash furnace, converters, and other auxiliary equipment for smelting and refining of copper sulfide ore. AAC R18-2-715 limits smelter process and fugitive SO₂ emissions to 33,498 tpy. Actual emissions, however, are less than 23,000 tpy. In addition, the permit limits sulfur content and usage rates for fuel used in all fuel burning equipment. The ASARCO smelter is located in the Hayden SO₂ nonattainment area. A separate State Implementation and Maintenance Plan is being developed for the Hayden SO₂ nonattainment area and will include further details regarding this source. ADEQ anticipates submittal of the SIP to EPA in 2002.

4.3 Area, Mobile, and Total Sources

Emissions for the nonattainment area were derived from EPA NET area and mobile source inventories for Gila County based on the assumption that area and mobile source emissions are proportionate to population levels. The Miami SO₂ nonattainment area population is estimated to be thirty-one percent of the Gila County population based on the aggregate population centers of Globe, Central Heights-Midland CDP, Claypool CDP and Miami. The remainder of the nonattainment area has a very low population density with low traffic levels and minimal commercial or industrial development.³¹ Data shows that there are no urban areas that might be significant area or mobile sources located within the Miami nonattainment area as illustrated in Table 4.3. Area and mobile sources combined were less than one percent of the total emissions during the attainment demonstration period.

Source Type:³²		1999	2000
Area and Mobile³³	24 Hr. (tpd)	< 1	< 1
	Annual (tpy)	149	150
Point	24 Hr. (tpd)	< 23	< 22
	Annual (tpy)	7,826	6,814
24 Hour Total (tpd):		< 24	< 23
Annual Total (tpy):		7,975	6,964

³¹ See Section 1.3.2 for a more detailed explanation of population data.

³² Area and mobile source estimates are based on EPA's AIRData for Gila County. Point source estimates are based on ADEQ annual emissions inventory data. See Appendix B for a more detailed breakdown of area and mobile sources.

³³ 24-hour inventories are averages based on a 365 day distribution of emissions from these sources.

4.4 Emissions Projections

Arizona does not anticipate any substantial increase in existing point source emissions between 2000 and 2015 for the nonattainment area. Should any growth occur due to construction of additional SO₂ point sources, ADEQ's permit program limits all emissions as part of the construction of new point sources or the upgrading of existing sources.

4.4.1 Point Source Projections

Projections for copper smelters are based on growth rates contained in the Western Regional Air Partnership (WRAP), *Annex to the Report of the Grand Canyon Visibility Transport Commission*, October 16, 2000. This report notes that downward pressure on copper prices resulting from international competition has resulted in a consolidation of the copper industry in the Southwestern United States. Consequently, no expansion of the industry is expected through 2015.³⁴ The remaining sources have existing permits limiting their potential to emit to less than 100 tpy. Table 4.4 and Table 4.5 present projected emissions for point sources within the nonattainment area and within 50 km of the nonattainment boundary.³⁵

Source Name:		1999	2000	2005	2010	2015
BHP Copper, Pinto Valley Unit	24 Hr. (tpd)	< 1	< 1	< 1	< 1	< 1
	Annual (tpy)	< 1	< 1	< 1	< 1	< 1
BHP Copper, Miami Unit	24 Hr. (tpd)	< 1	< 1	< 1	< 1	< 1
	Annual (tpy)	< 1	< 1	< 1	< 1	< 1
Carlota Copper Company³⁶	24 Hr. (tpd)	0	0	< 1	< 1	< 1
	Annual (tpy)	0	0	1.22	1.22	1.22
Phelps-Dodge Miami Mine³⁷	24 Hr. (tpd)	< 1	< 1	< 1	< 1	< 1
	Annual (tpy)	7	4	8	8	8

³⁴ The Annex is expected to be approved by EPA at the end of 2002.

³⁵ All 24-hour inventory projections are calculated based on the average number of operating hours for the attainment period.

³⁶ Projections are based on potential to emit (PTE) limits as the facility currently does not exist.

³⁷ Projections are based on historical, fully operational rates.

Table 4.4 - Projected SO₂ Emissions for Miami Nonattainment Area - Point Sources						
Source Name:		1999	2000	2005	2010	2015
Phelps-Dodge Miami Smelting Operations³⁸	24 Hr. (tpd)	22	21	23	23	23
	Annual (tpy)	7,819	6,810	8,000	8,000	8,000
24 Hour Total (tpd):		< 23	< 22	< 24	< 24	< 24
Annual Total (tpy):		7,826	6,814	8,009	8,009	8,009

Table 4.5 - Projected SO₂ Emissions within 50km of the Miami Nonattainment Area - Major Point Sources						
Source Name:		1999	2000	2005	2010	2015
ASARCO Hayden Smelter³⁸	24 Hr. (tpd)	58	47	66	66	66
	Annual (tpy)	21,081	15,934	23,000	23,000	23,000
24 Hour Total (tpd):		58	47	66	66	66
Annual Total (tpy):		21,081	15,934	23,000	23,000	23,000

4.4.2 Area, Mobile, and Total Source Projections

ADEQ projects emissions of SO₂ from area and mobile sources to grow proportionately with the population of the nonattainment area. Appendix B describes the source category emissions projections in greater detail.³⁹ Table 4.6, on the following page, presents projected area and mobile, and total source emissions for the Miami nonattainment area.

³⁸ The annual number of operating days used to calculate the projected 24-hour inventories for 2005 through 2015 (annual emissions divided by the number of operating days) were based on average operating conditions. The average number of operating days for the period 1999 through 2000 were assumed to represent typical operating rates.

³⁹ See Section 1.3.2 for a more detailed analysis of population data.

Table 4.6 - SO₂ Emissions Projections for Miami Nonattainment Area - All Sources						
Source Type:		1999	2000	2005	2010	2015
Area and Mobile	24 Hr. (tpd)	<1	<1	<1	<1	<1
	Annual (tpy)	149	150	154	158	162
Point	24 Hr. (tpd)	< 23	< 22	< 24	< 24	< 24
	Annual (tpy)	7,826	6,814	8,009	8,009	8,009
24 Hour Total (tpd):		< 24	< 23	< 24	< 24	< 24
Annual Total (tpy):		7,975	6,964	8,163	8,167	8,171

5.0 MODELING DEMONSTRATION

Attainment is demonstrated through the clean ambient air quality record of more than ten years and use of Multi-point rollback (MPR) modeling. The improvement in air quality is due to continuous SO₂ emissions process and control technologies implemented by the Miami smelter to comply with the SO₂ emission limits regulations adopted for Arizona smelters in September 1979. MPR, which was approved by EPA in January 1983 as a modeling technique for Arizona smelters, was selected as the most precise and reliable method for then determining contemporary and future stack SO₂ emission limits.

MPR is a proportional rollback technique founded on the assumption that smelter emissions and ambient concentrations are proportional for a given set of dispersion conditions. Thus, a reduction in emissions results in a comparable reduction in ambient concentrations. Based on this assumption, the appropriate level of emission reductions to protect the NAAQS can be achieved if emissions are reduced by the ratio of the corresponding ambient concentrations to the air quality standard.

The use of MPR addresses the high variability of both smelter emissions patterns and meteorological conditions, in part, by rolling back an entire emissions curve rather than a single emissions measurement. A rollback factor is determined by fitting a concentration frequency distribution (from observed data) to an appropriate functional curve and calculating a maximum (limiting) value with an expected once per year frequency of occurrence. The rollback or reduction factor is defined as the ratio of the ambient standard to the limiting value. Rollback factors are calculated for all applicable SO₂ NAAQS averaging periods. The largest calculated rollback factor is used to reduce each emission which occurred over the period of data accumulation (the emissions profile) to establish an allowable distribution of emissions rates that are protective of the NAAQS. The maximum rollback value is chosen to ensure that all primary and secondary standards are protected. In the case of the Miami smelter, the 3-hour standard was the most conservative limiting standard which, is also protective of the 24-hour and annual standards.⁴⁰

Because hourly emissions were not available in 1976, the original MPR analysis used an estimate of hourly SO₂ emissions over the course of a year, based on knowledge of smelter operations and emissions variability, to construct an emissions curve. The entire curve was then “rolled-back” and the resultant distribution used directly to construct the original MPR cumulative occurrence and 3-hour average emissions limits tables for stacks. Hourly ambient SO₂ concentration data from the Jones Ranch monitor (a stack and fugitive impact site) for the period December 1975, through November 1976, were used and average emissions for the same period were calculated by sulfur balance.

5.1 Derivation of New Emissions Limits

Based on EPA’s approval as a model, ADEQ utilized the MPR approach for the current attainment demonstration. The updated MPR study analyzes stack emissions and resultant ambient impacts based on current operating levels. In addition to evaluation of stack emissions, Section 5.1.2 includes analysis of ambient impacts due to facility-wide emissions including both stack and fugitives. Data from January 1999

⁴⁰ A detailed discussion of Multipoint Rollback methodology is contained in *Ultimate Sulfur Dioxide Emission Limits for Arizona Copper Smelters, September, 1979*.

through December 2000, are used in the current demonstration and include continuous measurement data for stack, calculated fugitive SO₂ emissions, and measured ambient concentrations. These data were used to establish new stack and facility-wide emission limits in rule that are demonstrated to maintain emissions at a level protective of the ambient air quality standards (See **Appendix A**).

At the time of the original analysis, knowledge of fugitive emissions was lacking and for this reason it was not possible to make estimates of either the amount of fugitives or their impact on ambient air quality. It should be noted, however, that for the Miami smelter, stack emissions are from a relatively low level and it is not possible to segregate contributions from fugitive and non-fugitive emissions. With the subsequent installation of continuous emissions monitoring systems for stacks, stack emissions can now be quantified. The revised limits provide control for separate stack emissions and total emissions.

5.1.1 Stack Emissions Limits

The new SO₂ limits for stacks at the Miami smelter maintain the basic MPR principles:

1. Smelter emissions and meteorological conditions are two highly variable and independent processes that together, directly influence the impact of emissions on ambient air quality;
2. Emissions limits can be set that assure a high probability of maintaining the applicable ambient air quality standards.

The new limits are in the same format as the original MPR tables. However, the derivation of the new values differs from the original in two important aspects. First, the new limits are based on actual hourly SO₂ emission measurements. Second, it was not necessary to reduce actual emissions as the SO₂ air quality standards were met by a large margin during the two year period (1999-2000) from which the emissions data were obtained (See **Section 3.1** and **3.2**). The following steps outline the method used in the current analysis for the new Miami smelter stack limits:

1. Calculate a new stack emissions curve in the form of MPR based on the current 3-hour average emissions profile,
2. Calculate an average annual emissions level based on current emissions, and
3. Determine an adjustment factor for the 3-hour average and annual average emissions to establish new limits (based on ambient concentration) to maintain future emissions at a level protective of the NAAQS.

Two years of data, based on actual stack emissions measurements from January 1999 through December 2000, were used in the current analysis to determine a new 3-hour average emissions profile and annual average for stacks. Three-hour running averages for this period were ranked in descending numerical order of value. Each successive pair of ranked 3-hour values was averaged to obtain a single representative profile creating a new database of 8,760 hourly values for the attainment period. The highest 3-hour average emission value for the calculated emissions profile was 4,090 lbs/hr. The second highest 3-hour value in the emissions profile was 3,373 lbs/hr. A maximum 3-hour average emission for the new profile (4,959) was then calculated by multiplying 4,090 lbs/hr by the ratio of 4,090/3,373. The highest 26 percent, or 2,240 hours, of the resulting averages were then sorted into 24 categories of cumulative frequency of occurrence values identical to the occurrence limits in the MPR tables (0 to 2,240). The emission values for each category of cumulative frequency of occurrence were selected, where in each category of allowed emission occurrences, the lowest actual emissions value in that range was used to

establish the new emissions level. For example, the **n** cumulative frequency of occurrence where **n = 7** in the new MPR table for stack emissions corresponds to the emissions value **E** where **E = 2,328**. The measured emissions values that occur in the frequency, where **n = 7**, are **2,418, 2,358 and 2,328**. The method of selecting the cumulative occurrence and 3-hour average emission limits is outlined in **Appendix C**.

The annual average emissions value for stacks was determined from the calculated numerical average of the combined hourly stack emission values for the attainment period (January 1999 through December 2000). Table 5.1 illustrates the new stack emissions profile based on actual emissions for the period.

Table 5.1 - Miami Smelter 3-hour MPR Stack Emissions Curve Based on Attainment Period	
Number of Cumulative Occurrences (n)	July 1, 1999-June 30, 2001 3-hr avg Emissions lbs/hr (E)
0	4959
1	4090
2	3373
4	2614
7	2328
12	1988
20	1724
32	1470
48	1206
68	973
94	835
130	728
180	654
245	608
330	580
435	553

Table 5.1 - Miami Smelter 3-hour MPR Stack Emissions Curve Based on Attainment Period	
Number of Cumulative Occurrences (n)	July 1, 1999-June 30, 2001 3-hr avg Emissions lbs/hr (E)
560	533
710	512
890	492
1100	473
1340	456
1610	437
1910	422
2240	407
Annual Average lbs/hr	
	345

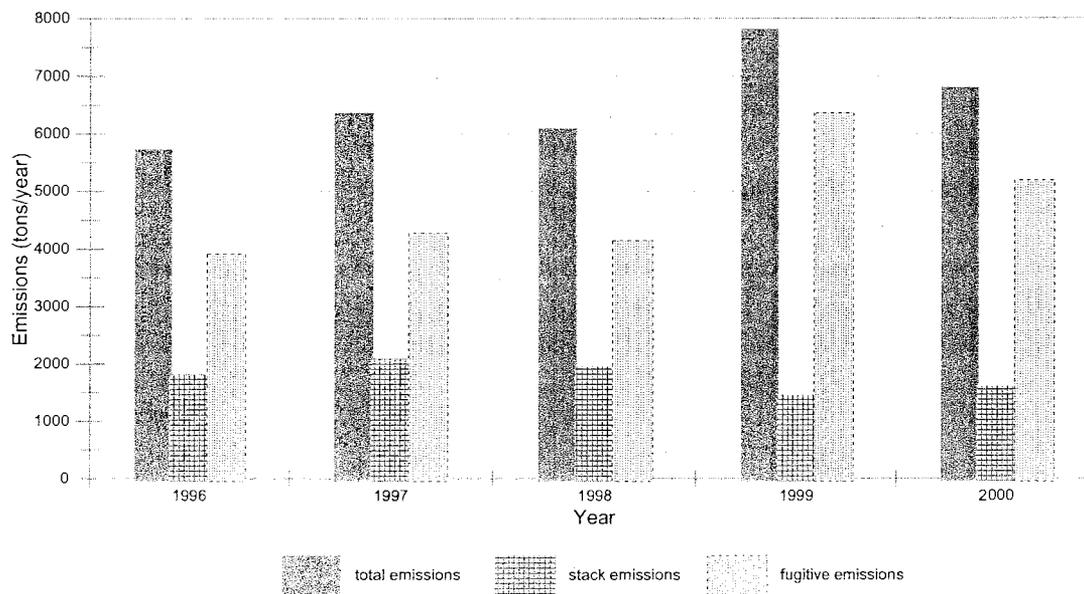
Because the ambient air quality standards have been met in the Miami area by a substantial margin, the next step in the analysis entailed selection of an adjustment factor to adjust the 2002 emissions curve, calculated from actual emissions from the attainment period, to a new level that continues to maintain the NAAQS.

Stack emissions at this smelter are released from a relatively low level and comparatively near the fugitive release height. Emissions from stack and fugitive sources are mixed shortly after release and are often combined as they disperse through the atmosphere. Because of the similarity in release heights, it is impossible to segregate the contributions of stack and low level fugitive emissions on ambient concentrations. While the individual stack and fugitive impacts are not explicitly defined, it is reasonable to evaluate the combined impacts of stack and associated fugitive emissions. A current permit provision limits overall annual average emissions to 2420 lbs/hr based on a twelve month (365 day) rolling average. This level of control has been shown to be protective of air quality in the Miami area (See Chapter 3). The smelter has continued to operate within these limits. However, as stack emissions measurements are now available, it is possible to determine the contribution of stack emissions to overall facility emissions levels. Therefore, it is a valid approach to estimate the numerical relationship between stack and fugitive emissions based on recent sulfur balance data and measurement data and use that relationship to divide the overall 2420 lbs/hr limit into components representative of stack and fugitive emissions. The existing permit limit and the current stack contribution to total emissions are the basis for determining an adjustment factor for the new stack emissions profile.

Stack emissions are measured by continuous emissions monitoring systems. Fugitive emissions are calculated by material balance for sulfur. Calculated and measured emissions from 1996 through 2000 show that stack emissions have ranged from 19 to 33 percent of total facility emissions over the last five years. A comparison of stack, fugitive, and total emissions is presented in Table 5.2 and illustrated in Figure 5.1.

Table 5.2 Miami Smelter Emissions					
Emissions Source	1996	1997	1998	1999	2000
Stack	1820	2090	1952	1458	1616
Fugitive	3917	4278	4145	6361	5193
Total	5737	6368	6097	7819	6810
Stack/Total	32 %	33 %	32 %	19 %	24 %

Figure 5.1: Miami Smelter SO₂ Emissions



Recent emissions inventories have shown that stack emissions are about one quarter of facility-wide emissions. In 2000, total emissions were 6,809 tons with fugitives comprising 5,193 tons and stacks 1,616 tons. Stack emissions were 23.7 percent of the total emissions for this year. This value is well within the range of observed data and below the five year average of 28 percent. The percentage of 2000 stack

emissions was rounded to 25 percent for ease of calculation and used to determine a stack portion of the total emission limit of 2420 lb/hr. A similar percentage of the total emission limit is calculated as follows:

$$2420 \text{ lb/hr} \times 0.25 = 604 \text{ lb/hr} \quad (1)$$

The calculated annual average emissions for the attainment period is 345 lb/hr (See Table 5.1) and differs from the stack portion of the emission limit by a factor of 1.75. The ratio of the calculated value in equation 1 to the annual average for the attainment period in Table 5.1 is shown in equation 2 below:

$$\frac{604 \text{ lb/hr}}{345 \text{ lb/hr}} = 1.75 \quad (2)$$

This factor is the basis for “rolling up” the 3-hour average stack emissions and the annual average stack emissions derived from attainment period data (See Table 5.1). The adjusted values become the new MPR 3-hour average and annual average limits for stack emissions as illustrated in Table 5.3. The new limits are within the existing permitted limit and representative of current stack contributions to overall emissions. The revised stack limit becomes the stack component of the overall facility limit of 2420 lbs/hr. These new stack limits are contained in a 2002 rulemaking and will be incorporated in a future permit revision (See **Appendix A**).

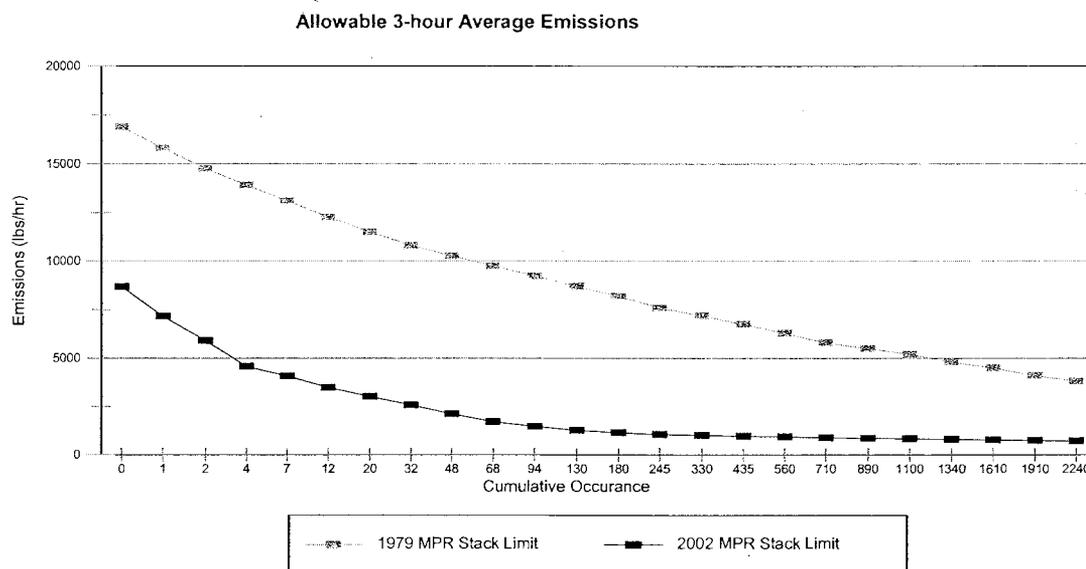
Table 5.3 - Miami Smelter MPR Stack Emissions Limits		
Number of Cumulative Occurrences (n)	3-hr Average Emissions (lbs/hr) Based on Continuous Emissions Data From July 1, 1999, through June 30, 2001 (E)	3-hr avg Emissions Limits (lbs/hr), Including 1.75 Adjustment Factor (E)
0	4959	8678
1	4090	7158
2	3373	5903
4	2614	4575
7	2328	4074
12	1988	3479
20	1724	3017
32	1470	2573
48	1206	2111
68	973	1703
94	835	1461

Table 5.3 - Miami Smelter MPR Stack Emissions Limits		
Number of Cumulative Occurrences (n)	3-hr Average Emissions (lbs/hr) Based on Continuous Emissions Data From July 1, 1999, through June 30, 2001 (E)	3-hr avg Emissions Limits (lbs/hr), Including 1.75 Adjustment Factor (E)
130	728	1274
180	654	1145
245	608	1064
330	580	1015
435	553	968
560	533	933
710	512	896
890	492	862
1100	473	828
1340	456	797
1610	437	765
1910	422	739
2240	407	712
Annual Average Emissions (lbs/hr)		
	345	604

5.1.2 Total Emission and Process Limits

In 1972, SO₂ emissions at the Miami smelter were 172,000 tons per year (tpy) or approximately 39,000 pounds per hour (lbs/hr). Between 1975 and 1980, subsequent to installation of an acid plant, emissions averaged 10,000 lbs/hr. In 1979, the MPR rule required annual average stack emissions to be rolled back to 3,163 lbs/hr or 13,854 tpy. The 1979 limits reduced emissions more than 150,000 tpy from 1975 levels. The subsequent 2002 rule revision reduced allowable annual average stack emissions to a lower level of 604 lbs/hr. The 2002 change in allowable emissions provides an annual reduction of 11,208 tons per year (approximately 81 percent of the 1979 rule limit) from stack sources alone. The corresponding reduction in allowable 3-hour average stack emissions is illustrated in Figure 5.2. In addition to the reduction in the stack limits, the 2002 analysis established a 2420 lbs/hr (10,368 tpy) facility-wide annual average SO₂ emission limit in rule.

Figure 5.2 - Comparison of 1979 and 2002 MPR Limits⁴¹



The 2002 rulemaking incorporates the current permit provision that limits total emissions at the Miami smelter to 2420 lbs/hr based on a 12 month rolling average as well as the new MPR 3-hour limits (See Appendix A). Based on the assumption of a generally linear relationship between emission levels and ambient concentrations, potential ambient concentrations can be calculated based on the ratio of the actual and the allowable emission level. Ambient air quality concentrations are shown to remain below the NAAQS when the annual, second high 24-hour, and second high 3-hour average ambient concentrations recorded at the Miami area ambient monitors during 1996, through 2000, are increased by the ratio of the allowable annual average emission limit to the actual annual average emission for each respective year (i.e., adjustment factor = rule limit/actual emissions). This long term record necessarily includes the associated distribution of short term emissions that occur at these operating rates. A similar comparison using the ratio of the maximum allowable 3-hour average emission limit (stacks) to the actual maximum 3-hour average emission for the attainment period also shows the calculated ambient concentrations to remain below the NAAQS. Figure 5.3 illustrates the smelter annual average emissions from 1996, through 2000, and Figure 5.4 shows the calculated increase of ambient concentrations.

⁴¹ Limits contained in AAC R18-2-715(F)(1) and (H).

Figure 5.3 - Miami Smelter Total Emissions

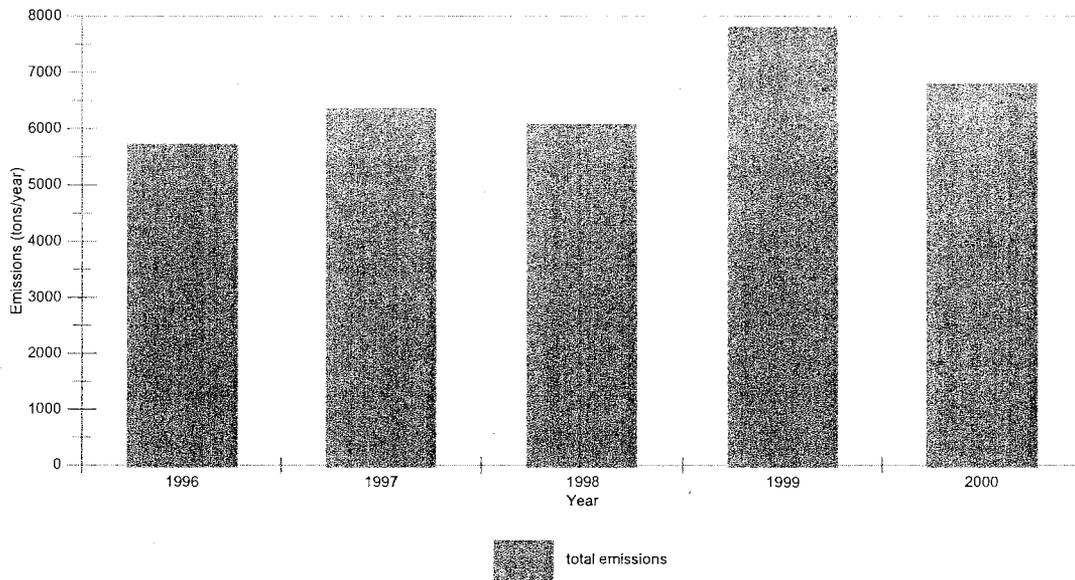
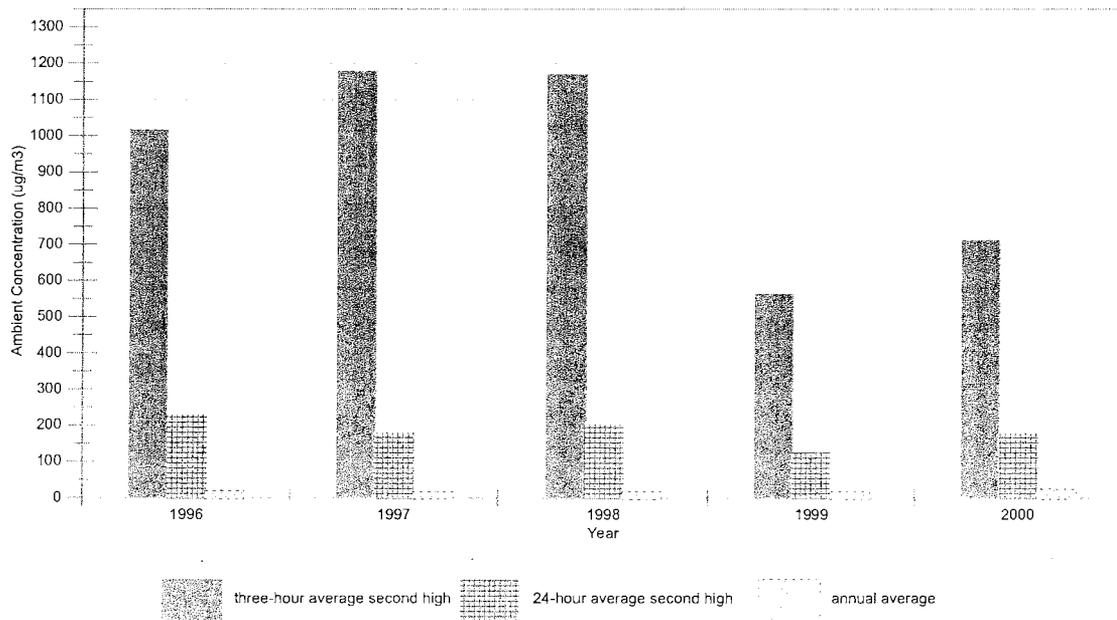


Figure 5.4 - Miami Smelter Ambient Concentrations
 (adjusted based upon the ratio of the new rule limit to the actual emissions)



In addition, another permit provision limits processing of new metal bearing material at the Miami smelter to 850,000 tpy. The smelter has operated within this limit. Based on the similar assumption of a generally linear relationship between operating levels and ambient concentrations as well as an average 30 percent sulfur content, potential ambient concentrations can be calculated based on the ratio of the actual to the allowable process level. Ambient air quality levels are shown to remain below the NAAQS when the annual, second high 24-hour, and second high 3-hour ambient concentrations recorded at the Miami area ambient monitors during 1996, through 2000, are increased by the ratio of the allowable throughput to the actual throughput for each respective year (i.e., adjustment factor = allowable throughput/actual throughput). Figure 5.5 illustrates the smelter processing throughput from 1996, through 2000, and Figure 5.6 shows the calculated increase of ambient concentrations.

Figure 5.5 - Miami Smelter Process Rate for New Metal-Bearing Material

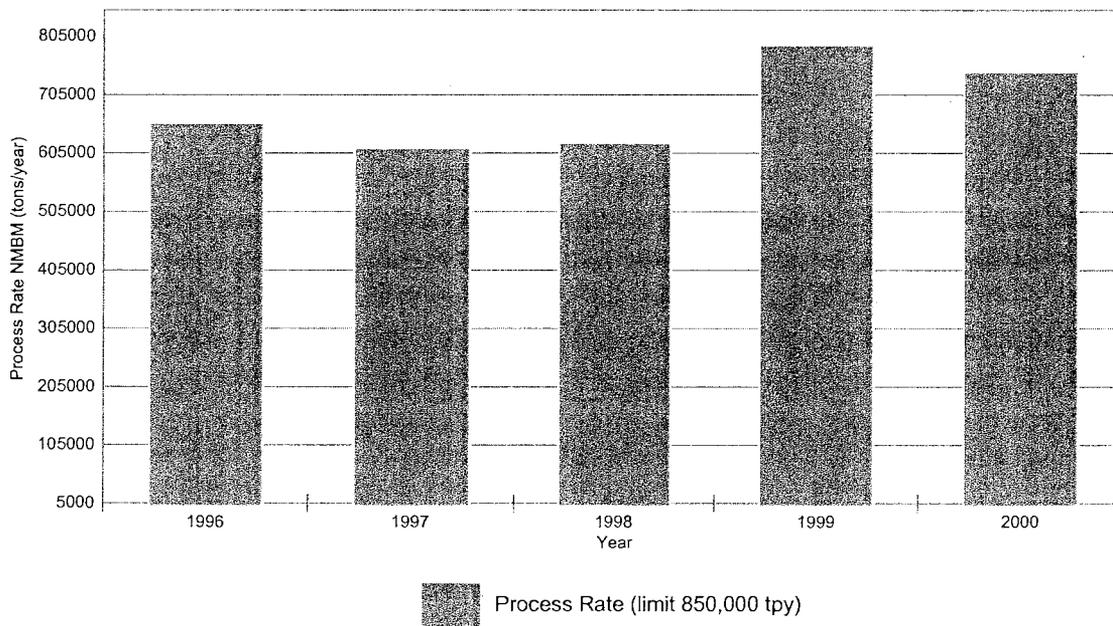
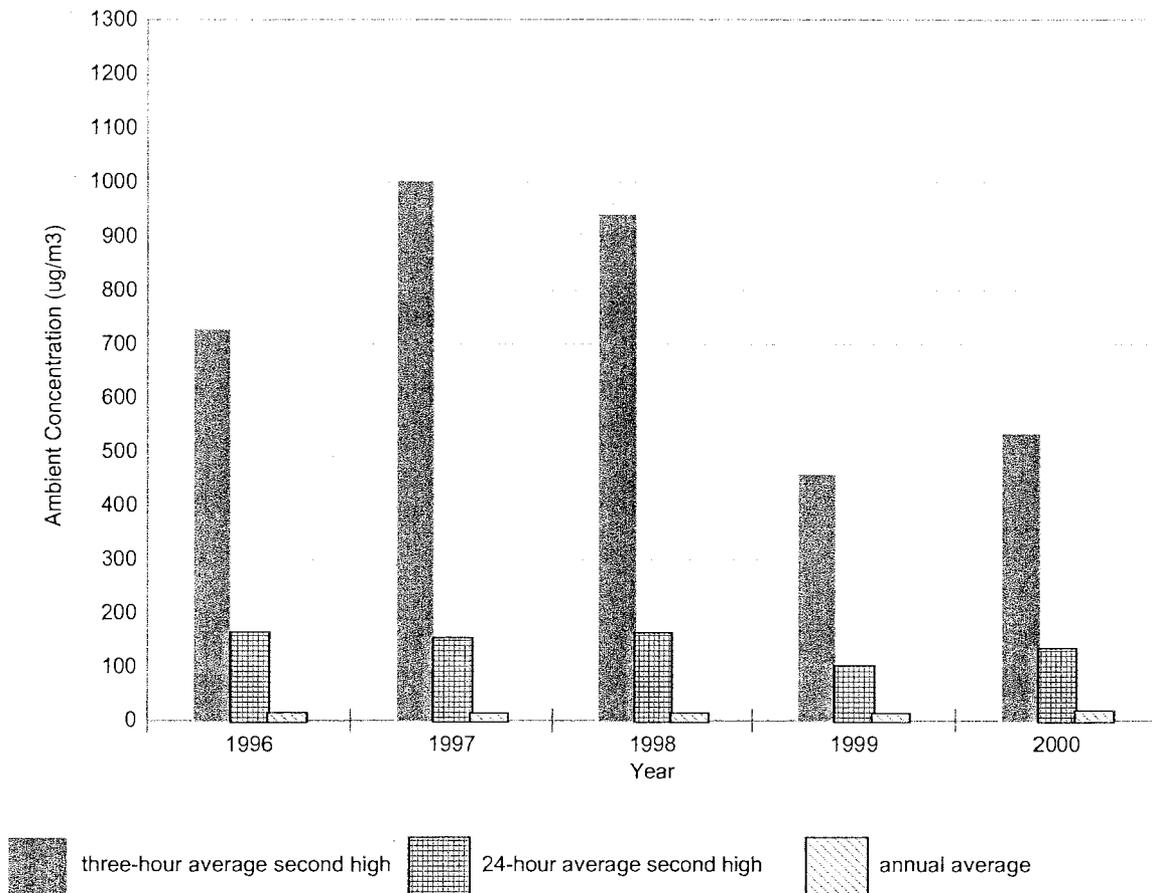


Figure 5.6 - Miami Smelter Ambient Concentrations
 (adjusted based upon the ratio of the processing limit to the actual processing rate)



The variability of meteorological parameters that affect dispersion patterns in the Miami area is also addressed by the long-term record of emissions and ambient concentrations. A five year period is long enough to experience restrictive meteorological conditions. The enforceable emissions limits, the clean air quality record presented in Chapter 3, as well as the implemented process limits show that these measures are protective of ambient air quality in the Miami area over the long term, including the restrictive meteorological conditions that would necessarily occur during the five year period.

5.2 Smelter Configuration

Smelter configuration and in particular the height of SO₂ releases, was a consideration in finding the Miami smelter in compliance with the original MPR limits and for the current demonstration of attainment of the SO₂ NAAQS. The original MPR limits for the Miami smelter were based on December

1975 through November 1976 records of SO₂ emissions and ambient concentrations. The smelter achieved compliance with the MPR emission limits in 1987 and remains in compliance to this date.

Stack emissions at this smelter are released from a relatively low level and comparatively near the fugitive release height. The original MPR analysis did not distinguish between stack and fugitive impacts. Although the smelter underwent significant modifications and emission reductions over the years, the location and heights of stack and fugitive SO₂ releases have changed only slightly. **Table 5.4** shows the release heights for 1976 compared to the most recent years of operation, 1999 through 2000. In addition, distances of the individual emission points to the facility property boundary have changed little since 1976.

Thus the ambient SO₂ monitoring network established in the 1970's and refined in the 1980's, including extensive sampling and testing for maximum SO₂ impact sites, occurred at a time with quite consistent emissions release heights. This consistency of SO₂ release locations continued through the 1990's thereby providing assurance that the ambient SO₂ monitoring network continues to represent the maximum impact of the combined stack and fugitive SO₂ emissions from the Miami smelter.

Conclusion:

As demonstrated above, SO₂ concentrations in the Miami nonattainment area have been demonstrated to attain the NAAQS.

Table 5.4 - Miami Smelter Configuration 1976 to Present				
Emissions Source	1976 Height (ft)	Present Height (ft)	Process Emission Source (1976)	Process Emission Source(Present)
Emissions Level				
Acid Plant Tail Gas Stack	200	200	Electric furnace, Converters	Electric furnace, IsaSmelt® furnace, Converters
Vent Fume Stack	234	234	Electric furnace matte tapping hoods	Electric furnace matte and slag tapping hoods, IsaSmelt® furnace tapping launders
Bypass Stack	200	200	Electric furnace, converters	Electric furnace, IsaSmelt® furnace, Converters
Dryer Stack	176	N/A	Concentrate dryer gases	Decommissioned in 1992
Fugitives	150	150	Converter and furnace gases not captured by hood and duct systems	Converter and furnace gases not captured by hood and duct systems

6.0 CONTROL MEASURES

Because the Phelps-Dodge smelter is responsible for the majority of SO₂ emissions in the area, the following attainment demonstration control measures relate specifically to Phelps-Dodge smelting operations. Applicable controls for other point sources in the Miami nonattainment area are discussed in Chapter 4.0.

6.1 Background ⁴²

Smelting operations at Miami began in 1915. Prior to 1974 the facility operated reverberatory furnaces and Peirce Smith converters to process copper sulfide ore from nearby mines. In 1974, an electric furnace and Hoboken or siphon converters were installed for processing dried copper ore concentrates. A double contact acid plant was also installed to clean SO₂ gases produced during the smelting and converting operations. Today the Miami primary copper smelter uses a combination IsaSmelt[®] Vessel and electric furnace process and has a processing capacity of more than 800,000 tons per year.

Copper is mined from a variety of ores, typically in the form of mineral compounds with sulfur. The processing of copper sulphide ore begins at the mine sites where, to facilitate transportation to smelters, concentration of the ore is accomplished via crushing, grinding, and a flotation process, to separate copper mineral from the ore. At the Miami smelter, copper concentrate is delivered to the bedding plant where it is put into beds (piles) containing about 6,000 tons which are then reclaimed and conveyed to the smelter. The concentrate, comprising approximately equal parts of copper, iron, and sulfur, is transferred to the IsaSmelt[®] design smelting furnace. Smelting of the copper concentrate is a process designed, through the use of heat, to separate copper from the iron, sulfur, and other impurities in the copper sulfide concentrates. Concentrates and fluxes (charge materials) are fed, along with injections of oxygen enriched air and natural gas fuel, into the closed IsaSmelt[®] vessel where the materials are melted. The required heat comes from burning of the fuel and the partial oxidation of the sulfide and iron portion of the charge. A fraction of the sulfur is eliminated at this stage as sulfur dioxide (SO₂). The high strength SO₂ gas stream from the IsaSmelt[®] furnace is routed through a waste heat boiler and to an electrostatic precipitator for dust removal prior to additional cleaning and conversion to sulfuric acid in the acid plant. The tail gas from the acid plant is exhausted to the atmosphere via the tail gas stack.

All molten material is tapped at the bottom of the IsaSmelt[®] vessel and conveyed via a laundering system to an electric furnace where slag and matte separation occurs. The electric furnace is primarily a slag separation device. Material from the IsaSmelt[®] furnace and slag from the converters containing small amounts of copper, along with flux, are fed into the furnace. Much of the iron and some of the impurities in the charge oxidize with the fluxes to form a slag on top of molten matte. The iron slag can be skimmed

⁴² Calculations used in this section were based on the following:

- a. US EPA, AP-42, Compilation of Air Pollution Emission Factors, Fifth Edition, August 31, 1998.
- b. Phelps-Dodge Smelter Federal Operating Permit Application, submitted November 1, 1994.
- c. Phelps-Dodge Smelter 1998 Emissions Inventory Survey.

from the top of the copper matte for disposal. Process gases from the electric furnace are cooled with water sprays and dust is removed from the gas stream by settling. The gas stream is then routed to the acid plant for further cleaning and SO₂ removal before being discharged through the tail gas stack.

Molten copper matte from the electric furnace, containing about 60 percent copper, is tapped through covered launders into ladles and transferred by overhead cranes to one or more of three operating hot converters. Converting produces blister copper by eliminating the remaining iron and sulfur present in the matte. During this process, air is blown through the molten matte to promote further oxidation of sulphur and slagging of iron and other metals. Blowing and slag skimming continue until the copper reaches a purity of 99 percent. The molten blister copper from the converters is further fire refined in the anode vessel for the removal of oxygen and cast into anodes in the casting department for transport to an electrolytic refinery. Converter primary process gases are cooled in an air-to-gas cooler and are then combined with off gases from the IsaSmelt[®] and electric furnace before being routed to the acid plant. All exhaust gas from the acid plant is further controlled by a chemical peaking scrubber, if required, to maintain the 650 ppm SO₂ exhaust standard before being vented to the atmosphere via the tail gas stack.

Fugitive emissions from the IsaSmelt[®] launder hoods, and the electric furnace matte and slag tapping hoods are collected by the vent fume system. These gases pass through a chemical scrubber to control emissions and are discharged into the atmosphere via the vent fume stack. Process flow diagrams are included in this submittal in Appendix C.

Prior to 1975, all smelting operations process gasses were emitted into the atmosphere after particulate removal by an electrostatic precipitator. From sulfur balance data the average emissions were reported to be at least 34,000 lbs/hr. The installation of an acid plant in late 1974 added SO₂ control for the electric furnace and primary converter gas.

As smelting and emission control technology improved, the smelter operators initiated changes to further reduce emissions and increase production. A series of improvements in 1992 included installation of an IsaSmelt[®] furnace and a 528 ton per day oxygen plant to enrich the smelting process gases. The installation of the new IsaSmelt[®] furnace eliminated the use of the electric furnace as the primary device for smelting. The improvements also included an upgrade of the double-contact acid plant, which has a current process rating of 140,000 scfm and 2,400 tons of acid each day.

The double-absorption sulphuric acid plant is the predominant control device for primary process SO₂ gases at this smelter. Process gases produced by the IsaSmelt[®] furnace, electric furnace, and converters are cleaned of particulates in a gas scrubbing system to prepare the gas stream for treatment in the acid plant. The Miami smelting process provides a steady gas feed to the acid plant, enabling optimal plant performance.

In the acid plant, the SO₂ is cleaned, dried, and converted by catalyst to sulphur trioxide (SO₃). The SO₃ is readily adsorbed in circulating sulphuric acid to become salable grade acid. The acid plant provides control of process gas SO₂ at or below the outlet SO₂ concentration limit of 0.065 percent by volume set forth in the federal New Source Performance Standard 40 CFR 60, Part P. The efficiency of SO₂ recovery by the acid plant is 99.9%. Based on measurement data from the continuous emission monitor in the tail gas stack, the average acid plant tail gas emission SO₂ concentration was 298 ppm during an April 21, 1998, compliance test run. Additional control for the acid plant exhaust gases is provided by the acid plant tail gas peaking scrubber. The annual average process rate for this smelter is estimated at 97 dry tons per hour (tph) of new sulfide concentrates. The production throughput of this facility, however,

is dependent upon the operational capacity of the sulfuric acid plant to treat SO₂ emissions from the IsaSmelt® vessel, electric furnace, and converters.

To improve the removal efficiency of the acid plant and decrease tail stack emissions, the facility has replaced and upgraded its deteriorated catalytic converter and absorbing towers to withstand the stronger gas strengths being produced as a result of the new smelting furnace (up to 10.5% SO₂ gas strength). In addition to the tower replacement, a new acid pump tank, heat exchangers, and associated pumps were installed. The new towers are equipped with new high efficiency (candle type) mist eliminators, which resulted in improved performance of the Acid Plant.

The 1991 IsaSmelt® conversion improved the control of SO₂ emissions and helped minimize the release of fugitive emissions directly to the atmosphere. The new furnace's closed vessel design fully contains emissions so they can be more effectively routed to the acid plant.

Release of fugitive emissions can also occur during the transfer of matte and converter return slag across the converter aisle. Due to a higher matte grade (58%) produced from the IsaSmelt® operations, the total amount of sulfur in these materials is reduced. The higher matte grade also reduces the amount of converter blowing time. During a slag blow, the converter must be rolled out and skimmed, which can contribute to the escape of emissions from the converter mouth. Consequently, the lower sulfur content of the matte results in an overall reduction of converter aisle fugitive emissions.

Additional improvements included the addition of fugitive emission collection equipment at tapping areas of the smelter. In 1981, hooding was installed over the electric furnace matte tapping area. In 1992, new hoods and ducting were installed above the slag tapping area on the electric furnace and above the IsaSmelt® tapping area. At this time, the ventilation fans were upgraded to increase the flow rate through the vent fume system and a scrubber was added to treat the captured ventilation gases from all electric furnace and IsaSmelt® tapping areas.

Although furnace secondary process emissions are hooded to minimize the release of emissions directly to the atmosphere, fugitive emission control is also dependent upon maintenance and operating procedures. Adequate control of fugitive emissions from the converting process at the Miami smelter is achieved by regular maintenance of the converting equipment. The facility presently utilizes four Hoboken siphon type converters with air-to-gas heat exchangers.⁴³ The siphon converter is fitted with a flue at one end to siphon gases from the converter directly to an off gas collection system and was designed to maximize the removal of gas and maintain a high percentage of SO₂ for treatment in the acid plant. Under normal operating conditions, an equilibrium of air flow or draft is maintained at the converter mouth. The draft is continuously adjusted to prevent excessive air flow into the converter and cooling of converter contents. Control of excessive flow out of the converter mouth prevents escape of fugitive SO₂ emissions. Equilibrium draft is maintained by the use of a valve, which is used to regulate the flow through the converter. This equipment is a 48 inch diameter butterfly valve.

Periodic buildup of accumulated solid materials located at the discharge end of the converter or the damwall area can occur over time. This is due to the cooling of molten particles produced during the converting process. If not removed periodically, the buildup will eventually restrict the flow of converter gas to the acid plant, and disrupt the airflow at the mouth of the converter, resulting in fugitive emissions.

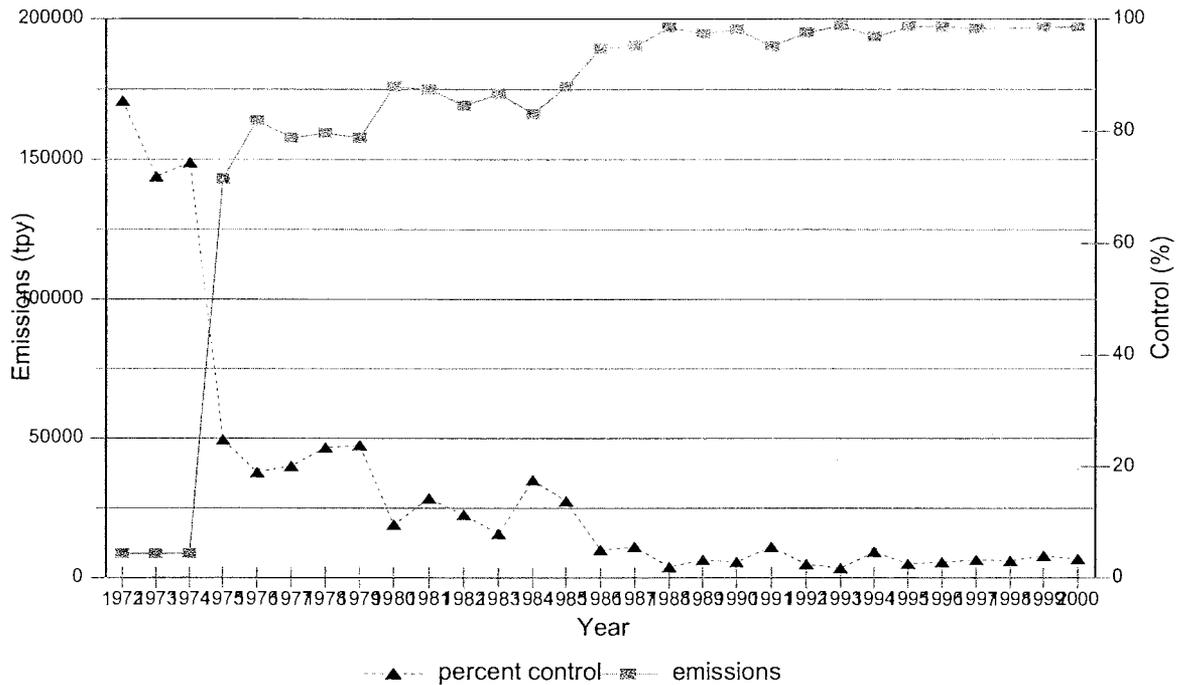
⁴³ A fifth converter is currently not operational.

To determine when a converter should be shut down for damwall cleaning the facility monitors the butterfly valve that adjusts the flow of gases through the converter. When the converter damwall area is clean, the butterfly valve is normally partially open. As solid material builds up on the damwall over time, the valve is opened further to compensate for the restricted air flow within the converter. Eventually, the valve must be opened to the maximum level (100%) to maintain the equilibrium of airflow at the mouth of the converter. Subsequently, the converter is shutdown to do the necessary cleaning and maintenance work. Phelps Dodge continues to monitoring the operation of the butterfly valve to ensure optimal performance of the draft valve and flow of converter gas to the acid plant.

The process changes and emissions control improvements implemented at the Phelps-Dodge smelter are summarized in Table 6.1 below. Figure 6.1 on the following page illustrates the pre-control and post-control SO₂ emissions levels.

Table 6.1 - Implementation of SO₂ Process and Control Technology	
Year	Equipment
1974	Replacement of reverberatory furnace and old converters with an Electric Furnace and Hoboken converters. Installation of a double contact acid plant for treatment of primary process gases.
1979-1981	Installation of Electric Furnace matte fume hoods at matte tapping area for capture of fugitive emissions.
1992	Installation of an IsaSmelt® Furnace and new oxygen plant. Installation of IsaSmelt® Furnace tapping launder covers, Electric Furnace slag tapping hoods, and vent fume scrubber for capture and control of fugitive emissions. Upgrade to increase the fan capacity of vent fume system for the two new fugitive emissions collection points. Upgrades to the acid plant and installation of a 3rd stage electrostatic mist precipitator at the acid plant and acid plant tail gas peaking scrubber for control of primary process emissions.
1997	Replacement of the old intermediate absorption tower at the acid plant with a new tower to increase the efficiency of the acid plant. The replacement is equipped with high efficiency (candle type) mist eliminators. Installation of a new catalytic converter, preheater, SO ₃ cooler, product acid cooler, and a final absorber, and replacement of two cold reheat exchangers at the acid plant.
1998	Intermediate absorber and cold reheat exchangers put into service.

Figure 6.1 - Miami Smelter SO₂ Emissions and Percent Control



6.2 Emissions Limitations for Phelps-Dodge

6.2.1 AAC Rule R18-2-715(F), R18-2-715(H) and 18-2-715.01 - Standards of Performance for Existing Primary Copper Smelters: Site specific requirements; Compliance and Monitoring

Measure Description:

In 1979, ADEQ promulgated site specific emissions limits at Arizona Code of Rules and Regulations R9-3-515, currently codified at AAC R18-2-715 (See **Appendix A**). The rule required all existing primary copper smelters to implement control technology sufficient to comply with the 1979 MPR stack limits as well as any fugitive emissions control technology necessary to assure attainment and maintenance of the NAAQS. The following emissions limits were specified for the Phelps-Dodge copper smelter at Miami:

1. Annual average stack emissions, as calculated pursuant to AAC R18-2-715.01(C) through (J) shall not exceed 3,163 lbs/hr. The number of three-hour emissions, as calculated pursuant to AAC R18-2-715.01(C) through (J) shall not exceed the limits as listed in AAC R18-2-715(F)(4).

ADEQ’s 2002 rule revision incorporated the following stack limits and added facility-wide limits

for the Phelps-Dodge smelter (See **Appendix A** for rule revision):

1. Annual average stack emissions, as calculated pursuant to AAC R18-2-715.01(C), shall not exceed 604 lbs/hr. The number of three-hour emissions, as calculated pursuant to AAC R18-2-715.01(C), shall not exceed the revised limits listed in AAC R18-2-715(F)(3).
2. Annual average total emissions, as calculated under AAC R18-2-715.01(U), shall not exceed 2420 lbs/hr.

Estimated SO₂ Emission Reduction:

Emissions were reduced by over 150,000 tpy from 1972 levels following compliance with the 1979 rule. Subsequent implementation of additional emissions collection and control measures enabled the 2002 revision that provides a further reduction in allowable emissions of 11,208 tpy for stack sources.

Responsible Agency and Authority for Implementation:

ADEQ is the responsible agency with authority designated by ARS §49-104(A)(11) and ARS §49-422.

Implementation Schedule:

The 1979 rule provided a compliance date of January 14, 1986, unless otherwise provided in a consent decree or a delayed compliance order. The compliance date for the 2002 rule revision is the effective date of the rule.

Level of Personnel and Funding Allocated for Implementation:

No additional personnel are required; implementation funding for ADEQ personnel is underwritten through emission and inspection fees. The approximate cost to the smelter is \$80,000 per annum for operation and maintenance of the ambient air analyzers. Expenditures for emissions collection and control improvements at the smelter are noted below.

Enforcement Program:

ADEQ is responsible for tracking the progress made through the implementation of this measure and for enforcing all applicable regulations through the schedule of inspections and the development of compliance and enforcement actions. (See **Section 7.3** for a description of inspection and compliance and enforcement procedures.)

Measure Monitoring Program:

Phelps-Dodge submitted a proposed compliance schedule for achievement of the 1979 MPR stack emission limits as expeditiously as practicable. A permit issued in 1984, included a compliance plan for installation of additional fugitive emission control equipment. All installations were completed the same year. The smelter subsequently submitted a permit application in 1990 for a \$100 million project to install the IsaSmelt[®] vessel, an oxygen plant, and additional emissions collection and control equipment. All on-site construction and installation of emission control equipment and process modification was completed in 1992. The collection and control technology implemented by Phelps-Dodge has allowed the facility, which had already demonstrated attainment, to accept additional emissions reductions in 2002 (See **Section 6.2** for a description of the implemented equipment).

For purposes of determining compliance with the emissions limits as codified in 1979, Phelps-Dodge was required to install, calibrate, maintain, and operate a measurement system for continuously monitoring SO₂ concentrations and stack gas volumetric flow rates in each stack that could emit 5 percent or more of the allowable annual average SO₂ emissions from the smelter. Demonstrations of stack gas volumetric flow rate and SO₂ concentration measurement systems required by subsections AAC R18-2-715.01 (K)(5)(a) and (b) were initiated in 1983. The location of all stack sampling points were approved by ADEQ prior to installation and operation of the continuous emission monitoring systems (CEMS). Phelps-Dodge installed and operates CEMS at the outlets of the vent fume stack, acid plant tail gas stack, and prior to the acid plant bypass. In addition to primary process gas, captured fugitive emissions are continuously monitored for SO₂ concentrations and stack gas volumetric flow rates, and are included when determining compliance with the cumulative occurrence and emissions limits contained in R18-2-715(F). Monitoring and emissions data submitted by Phelps-Dodge indicated that the smelter was in compliance with the 1979 emission limits by 1988.

Provisions for minimum performance and operating specifications for CEMS at this facility are contained in AAC R18-2-715.01(K)(5). Additional requirements for emission monitoring of the sulfuric acid plant are contained in AAC R18-2-313, Existing Source Emissions Monitoring. The Phelps-Dodge smelter stack monitoring system is subject to the manufacturer's recommended zero adjustment and calibration procedures at least once per 24-hour operating period and meets all applicable performance specification and quality assurance procedures contained in 40 CFR 60, Appendix B and F. Daily calibration and quarterly audits conducted by Phelps-Dodge are reported to ADEQ. To ensure continued compliance, Phelps-Dodge maintains on hand and has ready for immediate installation sufficient spare parts or duplicate systems for the continuous monitoring equipment to allow for the replacement within six hours of any monitoring equipment part which fails or malfunctions during operation.

As required by AAC R18-2-715.01 (L), Phelps-Dodge measures at least 95 percent of the hours during which emissions occurred in any month and has not failed to measure any 12 consecutive hours of emissions. Phelps-Dodge maintains records of all average hourly emissions measurements for at least five years following the date of measurement as required by 40 CFR 60 Subpart P - Standards of Performance for Primary Copper Smelters. All of the following measurement results are expressed as pounds per hour of SO₂, summarized monthly, and submitted to ADEQ within 20 days after the end of each month:

1. The annual averages of the month;
2. The total number of hourly periods during the month in which measurements are not taken and the reason for loss of measurement for each period;
3. The number of three-hour emissions averages which exceeded each of the applicable emissions levels listed in R18-2-715.01(F) for the compliance periods ending on each day of the month being reported;
4. The date on which a cumulative occurrence limit listed in R18-715.01(F) was exceeded if such exceedance occurred during the month being reported.

These submitted reports have shown continued compliance with all applicable regulations and averaging standards. ADEQ has not issued any notices of compliance actions for a monitoring violation to this facility.

As a means of determining total overall emissions, Phelps-Dodge performs a monthly material balance for sulfur and includes the results in the monthly compliance reports to ADEQ. Based on these

reports, the smelter continues to document a sulfur recovery rate over 98 percent. The average monthly sulfur recovery rate for 1999, through 2000, was calculated to be 98.5 percent. In addition to monthly compliance reports, ADEQ also receives from Phelps-Dodge quarterly audit, excess emissions, and CEM downtime reports, as well as annual emissions inventory reports based in part on the SO₂ CEMS data.

The rule also specifies requirements regarding bypass operations. At each point in the smelter facility where a means exists to bypass the sulfur removal equipment, the bypass is instrumented and monitored to detect and record all periods that the bypass is in operation. The bypass has been used during periods when the plant is shut down for repairs or in emergencies. All production activities at the smelter cease during a bypass. Phelps-Dodge reports the required information to ADEQ, not later than the 15th day of each month, and includes an explanation for the necessity of the use of the bypass.

6.2.2 AAC Rule R18-2-715.02 Standards of Performance for Existing Primary Copper Smelters: Fugitive Emissions

Measure Description:

This measure provides for an evaluation of the ambient impact of fugitive emissions from the Miami smelter. The regulation requires a measurement or accurate estimate of fugitive SO₂ emissions to determine whether these emissions have the potential to contribute to violations of the ambient SO₂ standards in the vicinity of the smelter. The rule also requires the adoption of rules specifying emission limits or other appropriate measures necessary to maintain the standards.

Estimated SO₂ Emission Reduction:

A reduction of 732 tpy was estimated following implementation of fugitive emissions collection and control measures.

Responsible Agency and Authority for Implementation:

ADEQ is the responsible agency with authority designated by ARS §49-104(A)(11) and ARS §49-422.

Implementation Schedule:

The rule provides a compliance date of January 14, 1986.

Level of Personnel and Funding Allocated for Implementation:

No additional personnel is required; implementation funding for the fugitive emission evaluation study was provided by Phelps-Dodge. The approximate cost of the SO₂ fugitive emission evaluation study was one million dollars.

Enforcement Program:

ADEQ is responsible for tracking the progress made through the implementation of this measure and for enforcing this measure through the schedule of inspections and the development of compliance and enforcement actions (See **Section 7.3** for a description of inspection and compliance enforcement procedures).

Measure Monitoring Program:

Fugitive SO₂ emissions at the Phelps-Dodge smelter are primarily generated from the furnace, converter, and anode process areas. Emissions that escape the collection systems exit the buildings through roof vents and other openings. These alternate exit points were identified by Phelps-Dodge through flow visualization tests and survey sampling. A fugitive emissions study was conducted to provide a measurement or accurate estimate of the relative percentage of fugitive emissions during typical operations. A final report was submitted to ADEQ on August 27, 1991. The study and other data gathered demonstrated that the majority of the SO₂ fugitive emissions escape from the furnace and the converter processes and identify the converter area as the primary source of uncaptured emissions at the smelter. Approximately 35 percent of the total sulfur dioxide emissions from this facility were attributed to converter building fugitives. A Summary of the fugitive emission study is contained in Appendix C.

Measures to improve collection and control of fugitive emissions together with control of primary process gasses have reduced total emissions to a level protective of the NAAQS in the Miami area (See **Section 6.2** for a description of implemented equipment). Rule provisions for the smelter include facility-wide limits. Captured fugitive emissions which are scrubbed to remove SO₂ are included when determining compliance with the limits described in Section 6.3.1.

6.2.3 Phelps-Dodge Permit Conditions

Reasonably Available Control Technology (RACT) for sources located in SO₂ nonattainment areas is defined as “that control technology necessary to achieve the NAAQS and is determined by the technological and economic feasibility of the control.”⁴⁴ Submittal of biennial compliance certifications under AAC R18-2-309(2)(a) are required to demonstrate the compliance status of the source with all applicable permit conditions. Controls implemented by Phelps-Dodge to reduce smelter emissions and comply with emissions limit regulations are included in the following permits outlined in Table 6.2, found on the following page. Additionally, Phelps-Dodge submitted a standard Title V permit application form to ADEQ in October 1994. The application for the Phelps-Dodge smelter including the IsaSmelt[®] furnace, electric furnace, Hoboken converters, anode furnaces, double absorption acid plant, oxygen plant, and associated equipment is currently under review.

⁴⁴ US EPA Office of Air and Radiation, Office of Air Quality Planning and Standards, “SO₂ Guideline Document,” February 1994.

Table 6.2 - Permit Conditions		
Date	Permit Number	Controls ⁴⁵
August 1, 1984	0310-84	Included emission limit of 85 tpd for sulfur which equates to an SO ₂ emission limit of 62,050 tpy.
May 30, 1991	1232	Retrofit to install IsaSmelt® furnace, new oxygen plant, vent fume and acid plant tail gas scrubber, IsaSmelt® furnace tapping launder covers, electric furnace slag tapping hoods, and upgrade of acid plant. The permit also established a facility-wide annual average SO ₂ limit of 2,420 pounds per hour.
Title V application	1000046	Requires maintenance and operation of all collection, process, and control equipment in a manner consistent with good air pollution control practice. Continued operation of CEMS is required to monitor and record SO ₂ discharge emissions rates from the smelting facility. Continued operation, maintenance, and calibration of all current Phelps Dodge Miami ambient SO ₂ monitors are also required.

⁴⁵ All listed controls have been captured in the facility's Title V permit.

7.0 MAINTENANCE PLAN

Section 107 (d) (3) of the amended CAA requires that nonattainment areas must have a fully-approved maintenance plan meeting the requirements of Section 175 (A) before they can be redesignated to attainment. Section 175 (A) requires submittal of a SIP revision that provides for the maintenance of the NAAQS for at least 10 years after the redesignation to attainment. The required components of the maintenance plan include:

1. A demonstration that future emissions of SO₂ will not cause a violation of the SO₂ NAAQS,
2. A commitment to continue to operate an appropriate air quality monitoring network to verify the attainment status of the area,
3. Assurance that the state has the legal authority necessary to implement and enforce all necessary measures used to attain and maintain the NAAQS,
4. An indication of how the state will track the progress of the maintenance plan, and
5. A contingency plan that contains measures to promptly correct any violation of the NAAQS that occurs after redesignation.

This submittal demonstrates that all of the above required elements have been met. ADEQ also commits to a SIP revision subsequent to this submittal providing for maintenance of the NAAQS for an additional ten years. This subsequent revision is due eight years into the first ten year maintenance period.

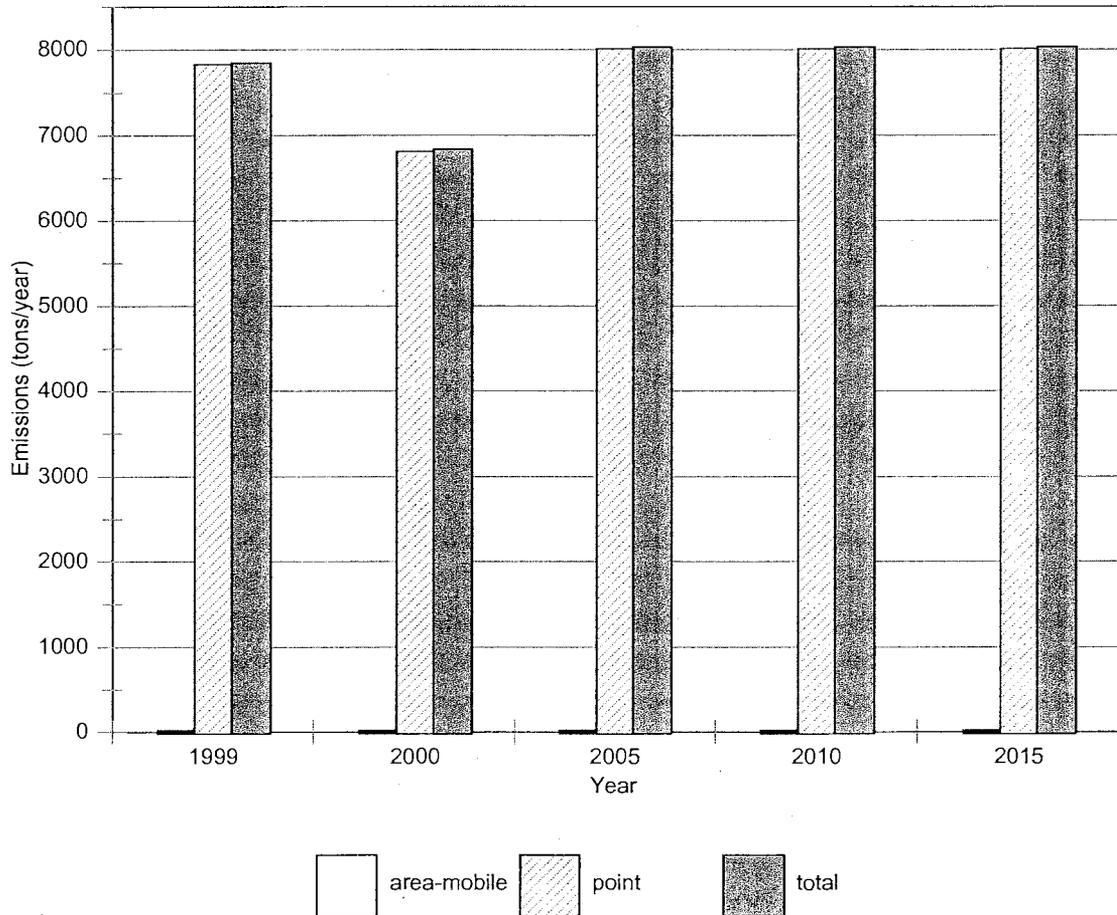
7.1 Maintenance Demonstration

Copper smelting operations at the Phelps-Dodge facility are the single greatest source of SO₂ emissions in the Miami nonattainment area comprising more than 99 percent of total emissions in the area. The conservative emissions limits that have been established for the smelter are based on actual emissions for the most recent eight quarters of smelter operations showing attainment of the SO₂ NAAQS (See **Chapter 4**). Once the area is redesignated, any new source or modifications to existing point sources of SO₂ are subject to the new source permitting procedures contained in AAC Title 18, Chapter 2, Article 4, specifically, ADEQ's Prevention of Significant Deterioration (PSD) Permitting Program contained in AAC R18-2-406. The regulations were established to preserve the air quality in areas where ambient concentrations are below the NAAQS and require stationary sources to undergo preconstruction review, utilizing BACT, before the facility is constructed, modified, or reconstructed.

Projections of 2000 base year attainment inventories for the Phelps-Dodge smelter and all other point sources in the nonattainment area are included in Table 4.3 of this submittal. These projections indicate that emissions in the area are estimated to grow only slightly through 2015. The estimate of mobile and area source emissions through the maintenance period is based on moderate population growth. Projections of 2000 base year attainment inventories for mobile and area source emissions in the nonattainment area are included in Table 4.4 of this submittal. Area, mobile, and point source projections are illustrated in Figure 7.1. Chapter 4 contains detailed projection information for all sources. Projections indicate an estimated 15 percent increase of total emissions from all source categories through 2015 from 2000 base year levels. However, the projected 2015 emissions are less than 3 percent higher than 1999

nonattainment area emissions levels. Because the attainment emissions inventories demonstrate a stringent level of protection of ambient air quality and only slight growth from 2000 base year inventories is estimated for total source emissions, once redesignated, the area is projected to continue to exhibit a substantial margin of safety protective of the SO₂ NAAQS.

Figure 7.1 - Miami Nonattainment Area SO₂ Emissions Projections



7.2 Ambient Monitoring

Continued operation of an appropriate air quality monitoring network is required to verify the attainment status of the area. To comply with the requirements of this maintenance plan, ADEQ and Phelps-Dodge, commit to continue monitoring ambient SO₂ concentrations for at least 10 years following the approval of this SIP and maintenance plan. Phelps-Dodge will continue to calibrate, maintain and operate the SO₂ monitors at the Jones Ranch and Townsite sites. The ambient SO₂ monitoring equipment

operated by Phelps-Dodge may be shutdown if the facility has not operated for more than 24 consecutive months. Ambient SO₂ measurement is required to resume at all facility operated sites three months prior to restarting of smelting operations. To ensure adequate representation of ambient air quality, ADEQ will continue to calibrate, maintain, and operate the SO₂ monitoring equipment at the Ridgeline site through the maintenance period.

Any changes in monitor location that may be indicated due to future changes in conditions will be discussed with EPA prior to final decisions. All ambient monitoring data will continue to be quality assured to meet the requirements of 40 CFR 58, Ambient Air Quality Surveillance. Data will also continue to be entered into EPA's *Aerometric Information Reporting System* (AIRS) database in accordance with federal guidelines. In addition, Phelps-Dodge will continue to monitor ambient temperature, wind speed, and direction for at least 10 years following the approval of this SIP and maintenance plan at the Jones Ranch and Townsite locations with the contingency that the meteorological equipment may be shutdown if the smelting facility has not operated for more than 24 consecutive months. Meteorological measurement is required to resume at these sites three months prior to restarting of smelting operations.

7.3 Verification of Continued Attainment

ADEQ anticipates no relaxation of any of the already implemented control measures used to attain and maintain the ambient air quality standards. ADEQ commits to submit to EPA any changes to rules or emission limits applicable to SO₂ sources as a SIP revision. ADEQ also commits to maintain the necessary resources to actively enforce any violations of the rules or permit provisions contained in this submittal.⁴⁶

Permitted sources are subject to the monitoring and reporting, and certification procedures contained in AAC R18-2-306 and AAC R18-2-309 respectively. Phelps-Dodge submits all certifications and reports as required by the above provisions (See **Section 4.3.1**). ADEQ has authority pursuant to ARS §49-101 *et seq.* to monitor and ensure source compliance with all applicable rules and permit conditions.

When ADEQ identifies a violation of any applicable permit requirement either through an inspection or records submitted to ADEQ, a decision will be made whether to issue a notice of opportunity to correct, a notice of violation, an administrative order, or to seek injunctive relief, and/or seek civil penalties. This decision will be made based upon the following considerations:

1. Risk to human health, safety, welfare or the environment;
2. The violator's indifference to the law;
3. The violator's previous compliance history.

Every notice of violation from ADEQ includes the following elements:

1. The factual nature of the violation.
2. The legal authority regarding compliance.
3. A description of what constitutes compliance and how it is to be documented.
4. A time frame in which ADEQ expects compliance to be achieved. Time frames shall require compliance at the earliest possible date.

⁴⁶ See **Appendix A** for the ADEQ Organizational Chart.

5. An offer to meet.
6. A statement of consequences.

If violations are not corrected within 120 days from receipt of the notice of violation, the facility is required to enter into a consent order or an executed agreement for a consent decree and a compliance schedule. Measures for addressing violations of the NAAQS are provided in the contingency plan (See **Section 7.4**).

7.4 Contingency Plan

This contingency plan provides a procedure to ensure future compliance and promptly correct any violation of the SO₂ NAAQS that may occur after redesignation of the area to attainment. Contingency measures do not have to be fully implemented at the time of redesignation. The assurance that the contingency procedures outlined in this plan will be followed and commitments will be implemented and enforced is contained in state law at ARS §49-402 and §49-404 (See **Appendix A**). Because the Phelps-Dodge Miami smelting facility is the major source of SO₂ emissions in the nonattainment area, the contingency measures presented in this section focus primarily on ambient impacts of emissions attributable to this facility. Contingency measures for all other point sources are provided by the Prevention of Significant Deterioration (PSD) requirements contained in AAC R18-2-403 and AAC R18-2-406.⁴⁷

A first occurrence in a calendar year of a verified ambient 3-hour average SO₂ level in excess of 0.425 ppm but less than 0.5 ppm (greater than 85 percent of the secondary NAAQS but less than 100 percent) shall require notification as described in the procedures below. The protective trigger level (PTL) is a second occurrence in a calendar year of a verified 3-hour average SO₂ level in excess of 0.425 ppm but less than 0.5 ppm (greater than 85 percent of the secondary NAAQS but less than 100 percent) or any occurrence of a verified 3-hour average SO₂ level in excess of 0.5 ppm (100 percent of the secondary NAAQS), recorded at any ambient monitoring station. If the PTL is exceeded, there will still be time to complete all necessary facility inspections and technical evaluations, develop recommendations, and implement necessary mitigation measures to prevent any violation of the SO₂ NAAQS. Multiple exceedances (either spatially or temporally) shall be considered a single event during an episode. For this SIP, an episode commences at the time that the first exceedance begins and an episode shall conclude at the end of the 3-hour period following the last exceedance that can be attributed to the same cause. Special measures described below for a second occurrence in a calendar year of a verified 3-hour average ambient SO₂ level over 0.5 ppm (a violation of the secondary NAAQS), provide added protection to prevent a violation of the air quality standards.

7.4.1 Notification Procedure

Phelps-Dodge will record the hourly concentrations for all facility operated ambient monitoring sites. ADEQ will record the hourly concentrations for the state operated ambient monitoring site. For the Phelps-Dodge operated SO₂ monitors, the facility must notify ADEQ as soon as practicable, but no later than the close of the next business day after initially verified monitoring data indicate that an ambient SO₂

⁴⁷ State regulations comply with the federal requirements found in: 40 CFR 51.307 (NSR); 40 CFR 51.166 (PSD).

level in excess of 0.425 ppm has been recorded. For the ADEQ operated SO₂ monitor, ADEQ must notify Phelps-Dodge as soon as practicable, but no later than the close of the next business day after initially verified monitoring data indicate that an ambient SO₂ level above 0.425 ppm. The facility will also have access to ADEQ's data.

7.4.2 First Action Level

These actions must be completed as soon as practicable, but no later than 24 hours following an event and should include at a minimum:

1. A full calibration check of the ambient SO₂ analyzers and recording systems, and review of all applicable records of environmental conditions and electrical supply at the monitor at the time of the exceedance. Final validation will be based on current EPA and ADEQ quality assurance guidelines,
2. Inspection of all ductwork and hooding associated with the IsaSmelt® and electric furnace process and fugitive gases and the converter process,
3. Assessment of the acid plant to ensure that this facility is operating within parameters recommended by the manufacturer for optimal performance within the New Source Performance Standards limits, and
4. Inspection of all other processing equipment.

If it is determined that the exceedance of the PTL or NAAQS was due to invalid ambient monitoring data no further action is necessary.

In the event of a valid exceedance, Phelps-Dodge will, as soon as feasible, perform any needed repairs or corrective maintenance actions as evidenced by the assessment, including if necessary, cessation of facility operations.⁴⁸ The following preventive measures shall also be implemented:

1. Walk through inspections and maintenance of emissions collection, control, and process equipment, shall be increased from monthly to weekly for the 12 month period following an exceedance of the PTL.⁴⁹ These inspections shall be targeted to the cause of the exceedance.
2. Should another exceedance of the PTL or NAAQS occur at any time within the ensuing 12 month period, the frequency of walk through inspections shall be increased to daily for the 12 month period following that exceedance. Daily inspections targeted to the cause shall continue for the 12 month period following any subsequent exceedances.

By the close of the second business day following an exceedance of the PTL, Phelps-Dodge will submit a report to ADEQ citing the nature of the event, any corrective actions or repairs undertaken to resolve the event, and recommendations for future corrective actions including specific milestones to avoid recurrence of such event. Any future repairs or corrective action taken must be reported to ADEQ within three working days after the repair or action is done. If the cause of the event has been resolved to ADEQ's satisfaction, no further action by Phelps-Dodge is necessary.

⁴⁸ For an exceedance to be valid, the data needs to be quality checked/quality (QA/QC) assured by the owner/operator of the monitor reporting the exceedance.

⁴⁹ Current maintenance procedures are described in Phelps-Dodge's Title V permit.

7.4.3 Second Action Level

Should a triggering of the PTL occur and not be found correctable by actions previously described, an analysis shall be performed to identify additional mitigation measures needed to ensure maintenance of the ambient air quality standards. Additional contingency measures considered for implementation may include:

1. Additional operating procedures consistent with good air pollution control practices,
2. Additional emissions collection and control technology,
3. Application of operating rate/process parameter limitations,
4. Further decreasing stack and/or fugitive emissions limits, and
5. Any other measures necessary to protect and maintain the NAAQS.

Phelps-Dodge's assessment and recommendation of the above measures shall be reported to ADEQ within 30 business days following a triggering of the PTL. No later than 90 business days following receipt of Phelps-Dodge's assessment and recommendations, and using all available data, ADEQ will make a determination regarding the cause and appropriate resolution of the event and shall require the adoption and implementation of additional control measures, if needed, to ensure that the SO₂ NAAQS will not be violated. ADEQ commits to initiating any required revisions to rule or permit as soon as possible.

The selection of measures will be based upon emission reduction potential, cost-effectiveness, economic and social considerations, or other factors that ADEQ deems appropriate. The addition of permanent control measures will be made by SIP revision following the required public participation. Failure of Phelps-Dodge or the State of Arizona and its agencies to implement control measures necessary to maintain the SO₂ NAAQS may be considered a failure to fulfill the obligations of this plan.

7.4.4 Special Measure

The following operational change shall be implemented within 24 hours of a monitored violation of the secondary NAAQS:

Processing of new concentrate shall not exceed the rate as calculated by the following formula:

$$S/AC * APR = \text{Operating Rate}$$

Where:

S = 3-hour standard (1300 ug/m³);

AC = actual maximum 3-hour average concentration recorded during the exceedance period (ug/m³); and

APR = average processing rate of new concentrate during the three hour exceedance period (tons/hour).

Phelps-Dodge shall also comply with the First Action Level requirements and, if necessary, the Second Action Level requirements. Within the same calendar year, should a second and higher concentration exceedance of the secondary NAAQS be recorded following implementation of the Special Measure, the operating rate shall be recalculated accordingly. The Special Measure shall remain in effect

until the facility has identified any source of emissions contributing to ambient SO₂ concentrations above the secondary NAAQS and has remedied the cause. If the violation can be attributable to an upset or malfunction the source may continue regular production while it submits a report within 24 hours detailing any repair or resolution. As detailed above, and in Chapter 5, compliance with the SO₂ NAAQS will be maintained during the next ten years.

8.0 REFERENCES

Supplemental D to Compilation of Air Pollutant Emission Factors, Volume I: Stationary Point and Area Sources (AP-42 5th Edition), US Environmental Protection Agency, EPA-454F9903, Department of Commerce, National Technical Information Service, Springfield, Virginia, August 31, 1998.

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Western Regional Air Partnership (WRAP), *Annex to the Report of the Grand Canyon Visibility Transport Commission*, October 16, 2000.

APPENDICES

APPENDIX A

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- Section A.1 Pertinent Sections of the Arizona Administrative Code (AAC)
- Part A.1.1 Summary Table - FOR REFERENCE ONLY
- AAC R18-2-101
 - AAC R18-2-220
 - AAC R18-2-301 through 333
 - AAC R18-2-401 through 411
 - AAC R18-2-715 through 715.02
- Section A.2 Information Regarding Revisions to AAC R18-2-715 and R18-2-715.01, "Standards of Performance for Primary Copper Smelters: Site Specific Requirements; Compliance and Monitoring"
- Part A.2.1 March 22, 2002, Notice of Proposed Rulemaking
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- Section D.2 Public Hearing Agenda
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APPENDIX A
SIP Support Information

- Section A.1 Pertinent Sections of the Arizona Administrative Code (AAC)
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 AAC R18-2-101
 AAC R18-2-220
 AAC R18-2-301 through 333
 AAC R18-2-401 through 411
 AAC R18-2-715 through 715.02
- Section A.2 Information Regarding Revisions to AAC R18-2-715 and R18-2-715.01, "Standards of Performance for Primary Copper Smelters: Site Specific Requirements; Compliance and Monitoring"
- Part A.2.1 March 22, 2002, Notice of Proposed Rulemaking
- Part A.2.2 Notice of Public Hearing
- Part A.2.3 Public Hearing Agenda
- Part A.2.4 Public Hearing Sign In Sheet
- Part A.2.5 Public Hearing Officer Certification and Transcript
- Part A.2.6 Draft Notice of Final Rulemaking
- Section A.3 ADEQ - Air Quality Division Organization Chart

Section A.1

Pertinent Sections of the Arizona Administrative Code (AAC)

Part A.1.1 Summary Table - FOR REFERENCE ONLY

AAC R18-2-101

AAC R18-2-220

AAC R18-2-301 through 333

AAC R18-2-401 through 411

AAC R18-2-715 through 715.02

**Appendix A.1.1: Pertinent Sections of the Arizona Administrative Code
(FOR REFERENCE ONLY)**

SIP Rule	Title	Final FR Date	FR Citation	AAC Equivalent	Title
R9-3-101	Definitions	08/10/88 10/19/84 05/03/83 09/28/82 05/05/82 04/23/82	53 FR 30220 49 FR 41026 48 FR 19879 47 FR 42572 47 FR 19328 47 FR 17486	R18-2-101	Definitions
R9-3-202	Sulfur Oxide	10/19/84 04/23/82	49 FR 41026 47 FR 17486	R18-2-202	Sulfur Oxide
R9-3-215	Ambient Air Quality Monitoring Methods and Procedures	10/19/84	49 FR 41026	R18-2-215	Ambient Air Quality Monitoring Methods and Procedures
R9-3-216	Interpretation of Ambient Air Quality Standards and Evaluation of Air Quality Data	04/23/82	47 FR 17486	R18-2-216	Interpretation of Ambient Air Quality Standards and Evaluation of Air Quality Data
R9-3-217	Attainment Areas: Classification and Standards	05/03/83 04/23/82	48 FR 19879 47 FR 17485	R18-2-217 R18-2-218	Designation and Classification of Attainment Areas Limitation of Pollutants in Classified Attainment Areas
R9-3-218	Violations	10/19/84 04/23/82	49 FR 41026 47 FR 17485	R18-2-219	Violations

**Appendix A.1.1: Pertinent Sections of the Arizona Administrative Code
(FOR REFERENCE ONLY)**

SIP Rule	Title	Final FR Date	FR Citation	AAC Equivalent	Title
R9-3-301	Installation Permits: General	05/03/83 05/05/82	48 FR 19879 47 FR 19328	R18-2-Article 3	Permits and Permit Revisions Permit Requirements for New Major Sources and Major Modifications to Existing Major Sources (State regulations passed pursuant to Title V of the 1990 Ammandments to the Clean Air Act include more extensive permitting requirements than are contained in the Arizona SIP. The revised requirements have been adopted into the Arizona Administrative Code, Title 18, Chapter 2, Articles 3 and 4. Sections of Articles 3 and 4 not pertinent to this SIP are rules R18-2-317.01, 317.02, 318.01, 324, 405, and 410.)
R9-3-302	Installation Permits in Nonattainment Areas	08/10/88 05/05/82	53 FR 30220 47 FR 19328	R18-2-Article 4	
R9-3-303	Offset Standards	08/10/88 05/05/82	53 FR 30220 47 FR 19328		
R9-3-304	Installation Permits in Attainment Areas	05/03/83	48 FR 19879		
R9-3-305	Air Quality Analysis and Monitoring Requirements	05/03/83	48 FR 19879		
R9-3-306	Operating Permits	05/03/83 05/05/82	48 FR 19879 47 FR 19328		
R9-3-307	Replacement	05/05/82	47 FR 19328		
R9-3-308	Permit Conditions	04/23/82	47 FR 17485		
R9-3-310	Arizona Testing Manual for Air Pollutant Emissions	10/19/84 04/23/82	49 FR 41026 47 FR 17486		
R9-3-311	Air Quality Models	04/23/82	47 FR 17486		
R9-3-312	Performance Tests	04/23/82	47 FR 17485		

**Appendix A.1.1: Pertinent Sections of the Arizona Administrative Code
(FOR REFERENCE ONLY)**

SIP Rule	Title	Final FR Date	FR Citation	AAC Equivalent	Title
R9-3-313	Existing Source Emissions Monitoring	04/23/82	47 FR 17486		
R9-3-314	Excess Emissions Reporting	04/23/82	47 FR 17485		
R9-3-315	Posting of Permits	04/23/82	47 FR 17485		
R9-3-316	Notice by Building Permit Agencies	04/23/82	47 FR 17485		
R9-3-317	Permit Non-transferable; Exception	04/23/82	47 FR 17485		
R9-3-318	Denial or Revocation of an Installation or Operating Permit	04/23/82	47 FR 17485		
R9-3-322	Temporary Conditional Permits	10/19/84	49 FR 41026		
R9-3-515	Standards of Performance for Existing Primary Copper Smelters	10/19/84 01/14/83	49 FR 41026 48 FR 1717	R18-2-715	Standards of Performance for Existing Primary Copper Smelters: Site-specific Requirements, Compliance and Monitoring, Fugitive Emissions
				R18-2-715.01	
				R18-2-715.02	

TITLE 18. ENVIRONMENTAL QUALITY
CHAPTER 2. DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR POLLUTION CONTROL

ARTICLE 1. GENERAL

Article 1 consisting of Section R9-3-101 renumbered as Article 1, Section R18-2-101 (Supp. 87-3).

Section

- R18-2-101. Definitions
 R18-2-102. Incorporated Materials
 R18-2-103. Applicable Implementation Plan; Savings

ARTICLE 2. AMBIENT AIR QUALITY STANDARDS; AREA DESIGNATIONS; CLASSIFICATIONS

Article 2, consisting of Sections R18-2-201 through R18-2-290, adopted effective August 8, 1991 (Supp. 91-3).

Article 2, consisting of Sections R18-2-201 through R18-2-220, repealed effective August 8, 1991 (Supp. 91-3).

Article 2 consisting of Sections R9-3-201, R9-3-202, R9-3-204 through R9-3-207, and R9-3-215 through R9-3-219 renumbered as Article 2, Sections R18-2-201, R18-2-202, R18-2-204 through R18-2-207, and R18-2-215 through R18-2-219 (Supp. 87-3).

Section

- R18-2-201. Particulate matter
 R18-2-202. Sulfur oxides (sulfur dioxide)
 R18-2-203. Ozone
 R18-2-204. Carbon monoxide
 R18-2-205. Nitrogen dioxide
 R18-2-206. Lead
 R18-2-207. Renumbered
 R18-2-208. Reserved
 R18-2-209. Reserved
 R18-2-210. Attainment, Nonattainment, and Unclassifiable Area Designations
 R18-2-211. Reserved
 R18-2-212. Reserved
 R18-2-213. Reserved
 R18-2-214. Reserved
 R18-2-215. Ambient air quality monitoring methods and procedures
 R18-2-216. Interpretation of ambient air quality standards and evaluation of air quality data
 R18-2-217. Designation and Classification of Attainment Areas
 R18-2-218. Limitation of Pollutants in Classified Attainment Areas
 R18-2-219. Violations
 R18-2-220. Air pollution emergency episodes

ARTICLE 3. PERMITS AND PERMIT REVISIONS

Article 3, consisting of Sections R9-3-301 through R9-3-332, adopted effective November 15, 1993 (Supp. 93-4).

Article 3, consisting of Sections R9-3-301 through R9-3-319, and R9-3-321 through R9-3-323 repealed effective November 15, 1993 (Supp. 93-4).

Article 3 consisting of Sections R9-3-301 through R9-3-319 and R9-3-321 through R9-3-323 renumbered as Article 3, Sections R18-2-301 through R18-2-319 and R18-2-321 through R18-2-323 (Supp. 87-3).

Section

- R18-2-301. Definitions
 R18-2-302. Applicability; Classes of Permits
 R18-2-302.01. Repealed

- R18-2-303. Transition from Installation and Operating Permit Program to Unitary Permit Program
 R18-2-304. Permit Application Processing Procedures
 R18-2-305. Public Records; Confidentiality
 R18-2-306. Permit Contents
 R18-2-306.01. Permits Containing Voluntarily Accepted Emission Limitations and Standards
 R18-2-306.02. Establishment of an Emissions Cap
 R18-2-307. Permit Review by the EPA and Affected States
 R18-2-308. Emission Standards and Limitations
 R18-2-309. Compliance Plan; Certification
 R18-2-310. Affirmative Defenses for Excess Emissions Due to Malfunctions, Startup, and Shutdown
 R18-2-310.01. Reporting Requirements
 R18-2-311. Test Methods and Procedures
 R18-2-312. Performance Tests
 R18-2-313. Existing Source Emission Monitoring
 R18-2-314. Quality Assurance
 R18-2-315. Posting of Permit
 R18-2-316. Notice by Building Permit Agencies
 R18-2-317. Facility Changes Allowed Without Permit Revisions - Class I
 R18-2-317.01. Facility Changes that Require a Permit Revision - Class II
 R18-2-317.02. Procedures for Certain Changes that do not Require a Permit Revision - Class II
 R18-2-318. Administrative Permit Amendments
 R18-2-318.01. Annual Summary Permit Amendments for Class II Permits
 R18-2-319. Minor Permit Revisions
 R18-2-320. Significant Permit Revisions
 R18-2-321. Permit Reopenings; Revocation and Reissuance; Termination
 R18-2-322. Permit Renewal and Expiration
 R18-2-323. Permit Transfers
 R18-2-324. Portable Sources
 R18-2-325. Permit Shields
 R18-2-326. Fees Related to Individual Permits
 R18-2-327. Annual Emissions Inventory Questionnaire
 R18-2-328. Conditional Orders
 R18-2-329. Permits Containing the Terms and Conditions of Federal Delayed Compliance Orders (DCO) or Consent Decrees
 R18-2-330. Public Participation
 R18-2-331. Material Permit Conditions
 R18-2-332. Stack Height Limitation
 R18-2-333. Acid Rain

ARTICLE 4. PERMIT REQUIREMENTS FOR NEW MAJOR SOURCES AND MAJOR MODIFICATIONS TO EXISTING MAJOR SOURCES

Article 4, consisting of Sections R18-2-401 through R18-2-411, adopted effective November 15, 1993 (Supp. 93-4).

Article 4, consisting of Sections R18-2-401 through R18-2-410, renumbered as Article 6, Sections R18-2-601 through R18-2-610 (Supp. 93-4).

Article 4 consisting of Sections R9-3-401 through R9-3-410 renumbered as Article 4, Sections R18-2-401 through R18-2-410 (Supp. 87-3).

Section

- R18-2-401. Definitions

- R18-2-402. General
- R18-2-403. Permits for Sources Located in Nonattainment Areas
- R18-2-404. Offset and Net Air Quality Benefit Standards
- R18-2-405. Special Rule for Major Sources of VOC or Oxides of Nitrogen in Ozone Nonattainment Areas Classified as Serious or Severe
- R18-2-406. Permit Requirements for Sources Located in Attainment and Unclassifiable Areas
- R18-2-407. Air Quality Impact Analysis and Monitoring Requirements
- R18-2-408. Innovative Control Technology
- R18-2-409. Air Quality Models
- R18-2-410. Visibility Protection
- R18-2-411. Special Rule for Non-operating Sources of Sulfur Dioxide in Sulfur Dioxide Nonattainment Areas

ARTICLE 5. GENERAL PERMITS

Article 5, consisting of Sections R18-2-501 through R18-2-510, adopted effective November 15, 1993 (Supp. 93-4).

Article 5, consisting of Sections R18-2-501 through R18-2-530, renumbered as Article 7, Sections R18-2-701 through R18-2-730 (Supp. 93-4).

Article 5 consisting of Sections R9-3-501 through R9-3-529 renumbered as Article 5, Sections R18-2-501 through R18-2-529 (Supp. 87-3).

Section

- R18-2-501. Applicability
- R18-2-502. General Permit Development
- R18-2-503. Application for Coverage under General Permit
- R18-2-504. Public Notice
- R18-2-505. General Permit Renewal
- R18-2-506. Relationship to Individual Permits
- R18-2-507. General Permit Variances
- R18-2-508. General Permit Shield
- R18-2-509. General Permit Appeals
- R18-2-510. Terminations of General Permits and Revocations of Authority to Operate Under a General Permit
- R18-2-511. Fees Related to General Permits
- R18-2-512. Renumbered
- R18-2-513. Renumbered
- R18-2-514. Renumbered
- R18-2-515. Renumbered
- R18-2-515.01. Renumbered
- R18-2-515.02. Renumbered
- R18-2-516. Renumbered
- R18-2-517. Renumbered
- R18-2-518. Renumbered
- R18-2-519. Renumbered
- R18-2-520. Renumbered
- R18-2-521. Renumbered
- R18-2-522. Renumbered
- R18-2-523. Renumbered
- R18-2-524. Renumbered
- R18-2-525. Renumbered
- R18-2-526. Renumbered
- R18-2-527. Renumbered
- R18-2-528. Renumbered
- R18-2-529. Renumbered
- R18-2-530. Renumbered

ARTICLE 6. EMISSIONS FROM EXISTING AND NEW NONPOINT SOURCES

Article 6, consisting of Sections R18-2-601 through R18-2-610, renumbered from Article 4, Sections R18-2-401 through R18-2-410 (Supp. 93-4).

Article 6, consisting of Sections R18-2-601 through R18-2-605, renumbered to Article 8, Sections R18-2-801 through R18-2-805 (Supp. 93-4).

Article 6 consisting of Sections R9-3-601 through R9-3-605 renumbered as Article 6, Sections R18-2-601 through R18-2-605 (Supp. 87-3).

Section

- R18-2-601. General
- R18-2-602. Unlawful Open Burning
- R18-2-603. Repealed
- R18-2-604. Open Areas, Dry Washes or Riverbeds
- R18-2-605. Roadways and Streets
- R18-2-606. Material Handling
- R18-2-607. Storage Piles
- R18-2-608. Mineral Tailings
- R18-2-609. Agricultural Practices
- R18-2-610. Definitions for R18-2-611
- R16-2-611. Agricultural PM10 General Permit; Maricopa PM10 Nonattainment Area
- R18-2-612. Evaluation of Nonpoint Source Emissions

ARTICLE 7. EXISTING STATIONARY SOURCE PERFORMANCE STANDARDS

Article 7 consisting of Sections R18-2-701 through R18-2-730 renumbered from Article 5, Sections R18-2-501 through R18-2-530 (Supp. 93-4).

Article 7 consisting of Sections R18-2-701 through R18-2-709 repealed effective September 26, 1990 (Supp. 90-3).

Article 7 consisting of Sections R9-3-701 through R9-3-709 renumbered as Article 7, Sections R18-2-701 through R18-2-709 (Supp. 87-3).

Section

- R18-2-701. Definitions
- R18-2-702. General Provisions
- R18-2-703. Standards of Performance for Existing Fossil-fuel Fired Steam Generators and General Fuel-burning Equipment
- R18-2-704. Standards of Performance for Incinerators
- R18-2-705. Standards of Performance for Existing Portland Cement Plants
- R18-2-706. Standards of Performance for Existing Nitric Acid Plants
- R18-2-707. Standards of Performance for Existing Sulfuric Acid Plants
- R18-2-708. Standards of Performance for Existing Asphalt Concrete Plants
- R18-2-709. Standards of Performance for Existing Petroleum Refineries
- R18-2-710. Standards of Performance for Existing Storage Vessels for Petroleum Liquids
- R18-2-711. Standards of Performance for Existing Secondary Lead Smelters
- R18-2-712. Standards of Performance for Existing Secondary Brass and Bronze Ingot Production Plants
- R18-2-713. Standards of Performance for Existing Iron and Steel Plants
- R18-2-714. Standards of Performance for Existing Sewage Treatment Plants
- R18-2-715. Standards of Performance for Existing Primary Copper Smelters; Site-specific Requirements
- R18-2-715.01. Standards of Performance for Existing Primary Copper Smelters; Compliance and Monitoring
- R18-2-715.02. Standards of Performance for Existing Primary Copper Smelters; Fugitive Emissions

- R18-2-1503. Annual Registration for Prescribed Burns
- R18-2-1504. Burn Plan Contents
- R18-2-1505. Burn Requests and Authorization
- R18-2-1506. Smoke Dispersion Evaluation
- R18-2-1507. Burn Accomplishment; ADEQ Recordkeeping
- R18-2-1508. Prescribed Natural Fires; Plan; Authorization; Monitoring; Inter-agency Consultation
- R18-2-1509. Emission Reduction Techniques; BMP
- R18-2-1510. Monitoring
- R18-2-1511. Burner Qualifications
- R18-2-1512. Public Awareness Program
- R18-2-1513. Surveillance and Enforcement
- R18-2-1514. Oversight
- R18-2-1515. Forms; Electronic Copies; Information Transfers
- Appendix 1. Standard Permit Application Form and Filing Instructions
- Appendix 2. Test Methods and Protocols
- Appendix 3. Logging
- Appendix 4. Reserved
- Appendix 5. Repealed
- Appendix 6. Repealed
- Appendix 7. Repealed
- Appendix 8. A8. Procedures for Utilizing the Sulfur Balance Method for Determining Sulfur Emissions
- Appendix 9. A9. Monitoring Requirements
- Appendix 10. A10. Evaluation of Air Quality Data
- Appendix 11. A11. Allowable Particulate Emissions Computations

ARTICLE 1. GENERAL

R18-2-101. Definitions

In addition to the definitions prescribed in A.R.S. §§ 49-101, 49-401.01, 49-421, 49-471, and 49-541, in this Chapter, unless otherwise specified:

1. "Act" means the Clean Air Act of 1963 (P.L. 88-206; 42 U.S.C. 7401 through 7671q) as amended by the Clean Air Act Amendments of 1990 (P.L. 101-549).
2. "Actual emissions" means the actual rate of emissions of a pollutant from an emissions unit, as determined in subsections (a) through (e).
 - a. In general, actual emissions as of a particular date shall equal the average rate, in tons per year, at which the unit actually emitted the pollutant during a 2-year period that precedes the particular date and that is representative of normal source operation. The Director may allow the use of a different time period upon a demonstration that it is more representative of normal source operation. Actual emissions shall be calculated using the unit's actual operating hours, production rates, and types of materials processed, stored or combusted during the selected time period.
 - b. If there is inadequate information to determine actual historical emissions, the Director may presume that source-specific allowable emissions for the unit are equivalent to the actual emissions of the unit.
 - c. For any emissions unit at a Class I source, other than an electric utility steam generating unit in subsection (e), that has not begun normal operations on the particular date, actual emissions shall equal the unit's potential to emit on that date.
 - d. For any emissions unit at a Class II source that has not begun normal operations on the particular date, actual emissions shall be based on applicable control

equipment requirements and projected conditions of operation.

- e. For an electric utility steam generating unit (other than a new unit or the replacement of an existing unit), actual emissions of the unit following the physical or operational change shall equal the representative actual annual emissions of the unit, if the source owner or operator maintains and submits to the Director, on an annual basis for a period of 5 years from the date the unit resumes regular operation, information demonstrating that the physical or operational change did not result in an emissions increase. A longer period, not to exceed 10 years, may be required by the Director if the Director determines the longer period to be more representative of normal source post-change operations.
3. "Administrator" means the Administrator of the United States Environmental Protection Agency.
4. "Affected facility" means, with reference to a stationary source, any apparatus to which a standard is applicable.
5. "Affected source" means a source that includes 1 or more units which are subject to emission reduction requirements or limitations under Title IV of the Act.
6. "Affected state" means any state whose air quality may be affected by a source applying for a permit, permit revision, or permit renewal and that is contiguous to Arizona or that is within 50 miles of the permitted source.
7. "Afterburner" means an incinerator installed in the secondary combustion chamber or stack for the purpose of incinerating smoke, fumes, gases, unburned carbon, and other combustible material not consumed during primary combustion.
8. "Air curtain destructor" means an incineration device designed and used to secure, by means of a fan-generated air curtain, controlled combustion of only wood waste and slash materials in an earthen trench or refractory-lined pit or bin.
9. "Air pollution control equipment" means equipment used to eliminate, reduce or control the emission of air pollutants into the ambient air.
10. "Air quality control region" (AQCR) means an area so designated by the Administrator pursuant to Section 107 of the Act and includes the following regions in Arizona:
 - a. Maricopa Intrastate Air Quality Control Region which is comprised of the County of Maricopa.
 - b. Pima Intrastate Air Quality Control Region which is comprised of the County of Pima.
 - c. Northern Arizona Intrastate Air Quality Control Region which encompasses the counties of Apache, Coconino, Navajo, and Yavapai.
 - d. Mohave-Yuma Intrastate Air Quality Control Region which encompasses the counties of La Paz, Mohave, and Yuma.
 - e. Central Arizona Intrastate Air Quality Control Region which encompasses the counties of Gila and Pinal.
 - f. Southeast Arizona Intrastate Air Quality Control Region which encompasses the counties of Cochise, Graham, Greenlee, and Santa Cruz.
11. "Allowable emissions" means the emission rate of a stationary source calculated using both the maximum rated capacity of the source, unless the source is subject to federally enforceable limits which restrict the operating rate or hours of operation, and the most stringent of the following:

- a. The applicable New Source Performance Standards or National Emission Standards for Hazardous Air Pollutants, as contained in Articles 9 or 11 of this Chapter;
 - b. The applicable existing source performance standard, as approved for the SIP and contained in Article 7 of this Chapter; or,
 - c. The emissions rate specified in any federally promulgated rule or federally enforceable permit conditions applicable to the state of Arizona.
12. "Ambient air" means that portion of the atmosphere, external to buildings, to which the general public has access.
 13. "Applicable implementation plan" means those provisions of the state implementation plan approved by the Administrator or a federal implementation plan promulgated in accordance with Title I of the Act.
 14. "Applicable requirement" means any of the following:
 - a. Any federal applicable requirement.
 - b. Any other requirement established pursuant to this Chapter or A.R.S. Title 49, Chapter 3.
 15. "Arizona Testing Manual" means the Arizona Testing Manual for Air Pollutant Emissions.
 16. "ASTM" means the American Society for Testing and Materials.
 17. "Attainment area" means an area so designated by the Administrator acting pursuant to Section 107 of the Act as having ambient air pollutant concentration equal to or less than national primary or secondary ambient air quality standards for a particular pollutant or pollutants.
 18. "Begin actual construction" means, in general, initiation of physical on-site construction activities on an emissions unit which are of a permanent nature. Such activities include installation of building supports and foundations, laying of underground pipework, and construction of permanent storage structures. With respect to a change in method of operation this term refers to those on-site activities, other than preparatory activities, which mark the initiation of the change.
 19. "Best available control technology" (BACT) means an emission limitation, including a visible emissions standard, based on the maximum degree of reduction for each air pollutant listed in R18-2-101(97)(a) which would be emitted from any proposed major source or major modification, taking into account energy, environmental, and economic impact and other costs, determined by the Director in accordance with R18-2-406(A)(4) to be achievable for such source or modification.
 20. "Btu" means British thermal unit, which is the quantity of heat required to raise the temperature of 1 pound of water 1° F.
 21. "CFR" means the Code of Federal Regulations, with standard references in this Chapter by Title and Part, so that "40 CFR 51" means "Title 40 of the Code of Federal Regulations, Part 51."
 22. "Charge" means the addition of metal bearing materials, scrap, or fluxes to a furnace, converter or refining vessel.
 23. "Clean coal technology" means any technology, including technologies applied at the precombustion, combustion, or post-combustion stage, at a new or existing facility that will achieve significant reductions in air emissions of sulfur dioxide or oxides of nitrogen associated with the utilization of coal in the generation of electricity, or process steam, that was not in widespread use as of November 15, 1990.
 24. "Clean coal technology demonstration project" means a project using funds appropriated under the heading "Department of Energy - Clean Coal Technology", up to a total amount of \$2,500,000,000 for commercial demonstration of clean coal technology or similar projects funded through appropriations for the Environmental Protection Agency. The federal contribution for a qualifying project shall be at least 20% of the total cost of the demonstration project.
 25. "Coal" means all solid fossil fuels classified as anthracite, bituminous, subbituminous, or lignite by ASTM D-388-91, (Classification of Coals by Rank).
 26. "Combustion" means the burning of matter.
 27. "Commence" means, as applied to construction of a source, or a major modification as defined in Article 4 of this Chapter, that the owner or operator has all necessary preconstruction approvals or permits and either has:
 - a. Begun, or caused to begin, a continuous program of actual on-site construction of the source, to be completed within a reasonable time; or
 - b. Entered into binding agreements or contractual obligations, which cannot be cancelled or modified without substantial loss to the owner or operator, to undertake a program of actual construction of the source to be completed within a reasonable time.
 28. "Construction" means any physical change or change in the method of operation, including fabrication, erection, installation, demolition, or modification of an emissions unit, which would result in a change in actual emissions.
 29. "Continuous monitoring system" or "continuous emission monitoring system" means the total equipment, required under the emission monitoring provisions in this Chapter, used to sample and, if applicable, to condition, to analyze, and to provide, on a continuous basis, a permanent record of emission or process parameters.
 30. "Controlled atmosphere incinerator" means 1 or more refractory-lined chambers in which complete combustion is promoted by recirculation of gases by mechanical means.
 31. "Discharge" means the release or escape of an effluent from a source into the atmosphere.
 32. "Dust" means finely divided solid particulate matter occurring naturally or created by mechanical processing, handling or storage of materials in the solid state.
 33. "Dust suppressant" means a chemical compound or mixture of chemical compounds added with or without water to a dust source for purposes of preventing air entrainment.
 34. "Effluent" means any air contaminant which is emitted and subsequently escapes into the atmosphere.
 35. "Electric utility steam generating unit" means any steam electric generating unit that is constructed for the purpose of supplying more than 1/3 of its potential electric output capacity and more than 25 MW electrical output to any utility power distribution system for sale. Any steam supplied to a steam distribution system for the purpose of providing steam to a steam-electric generator that would produce electrical energy for sale is also considered in determining the electrical energy output capacity of the affected facility.
 36. "Emission" means an air contaminant or gas stream, or the act of discharging an air contaminant or a gas stream, visible or invisible.
 37. "Emission standard" or "emission limitation" means a requirement established by the state, a local government, or the Administrator which limits the quantity, rate, or

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- concentration of emissions of air pollutants on a continuous basis, including any requirements which limit the level of opacity, prescribe equipment, set fuel specifications, or prescribe operation or maintenance procedures for a source to assure continuous emission reduction.
38. "Emissions unit" means any part of a stationary source which emits or would have the potential to emit any regulated air pollutant.
39. "Equivalent method" means any method of sampling and analyzing for an air pollutant which has been demonstrated under R18-2-311(D) to have a consistent and quantitatively known relationship to the reference method, under specified conditions.
40. "Excess emissions" means emissions of an air pollutant in excess of an emission standard as measured by the compliance test method applicable to such emission standard.
41. "Existing source" means any source which does not have an applicable new source performance standard under Article 9 of this Chapter.
42. "Federal applicable requirement" means any of the following as they apply to emissions units covered by a Class I or II permit (including requirements that have been promulgated or approved by EPA through rulemaking at the time of issuance but have future effective compliance dates):
- Any standard or other requirement provided for in the applicable implementation plan approved or promulgated by EPA through rulemaking under Title I of the Act that implements the relevant requirements of the Act, including any revisions to that plan promulgated in 40 CFR 52.
 - Any term or condition of any preconstruction permits issued pursuant to regulations approved or promulgated through rulemaking under Title I, including parts C or D, of the Act.
 - Any standard or other requirement under Section 111 of the Act, including Section 111(d).
 - Any standard or other requirement under Section 112 of the Act, including any requirement concerning accident prevention under Section 112(r)(7) of the Act.
 - Any standard or other requirement of the acid rain program under Title IV of the Act or the regulations promulgated thereunder and incorporated pursuant to R18-2-333.
 - Any requirements established pursuant to Section 504(b) or Section 114(a)(3) of the Act.
 - Any standard or other requirement governing solid waste incineration, under Section 129 of the Act.
 - Any standard or other requirement for consumer and commercial products, under Section 183(e) of the Act.
 - Any standard or other requirement for tank vessels under Section 183(f) of the Act.
 - Any standard or other requirement of the program to control air pollution from outer continental shelf sources, under Section 328 of the Act.
 - Any standard or other requirement of the regulations promulgated to protect stratospheric ozone under Title VI of the Act, unless the Administrator has determined that such requirements need not be contained in a Title V permit.
 - Any national ambient air quality standard or increment or visibility requirement under Part C of Title I of the Act, but only as it would apply to temporary sources permitted pursuant to Section 504(e) of the Act.
43. "Federal Land Manager" means, with respect to any lands in the United States, the secretary of the department with authority over such lands.
44. "Federally enforceable" means all limitations and conditions which are enforceable by the Administrator under the Act, including all of the following:
- The requirements of the New Source Performance Standards and National Emission Standards for Hazardous Air Pollutants contained in Articles 9 and 11 of this Chapter;
 - The requirements of such other state or county rules or regulations approved by the Administrator, including the requirements of state and county operating and new source review permit programs that have been approved by the Administrator;
 - The requirements of any applicable implementation plan;
 - Emissions limitations, controls, and other requirements, and any associated monitoring, recordkeeping, and reporting requirements, which are entered into voluntarily by a source pursuant to R18-2-306.01.
45. "Final permit" means the version of a permit issued by the Department after completion of all review required by this Chapter.
46. "Fixed capital cost" means the capital needed to provide all the depreciable components.
47. "Fuel" means any material which is burned for the purpose of producing energy.
48. "Fuel burning equipment" means any machine, equipment, incinerator, device or other article, except stationary rotating machinery, in which combustion takes place.
49. "Fugitive emissions" means those emissions which could not reasonably pass through a stack, chimney, vent, or other functionally equivalent opening.
50. "Fume" means solid particulate matter resulting from the condensation and subsequent solidification of vapors of melted solid materials.
51. "Fume incinerator" means a device similar to an afterburner installed for the purpose of incinerating fumes, gases and other finely divided combustible particulate matter not previously burned.
52. "Good engineering practice (GEP) stack height" means a stack height meeting the requirements described in R18-2-332.
53. "Heat input" means the quantity of heat in terms of Btu's generated by fuels fed into the fuel burning equipment under conditions of complete combustion.
54. "Incinerator" means any equipment, machine, device, contrivance or other article, and all appurtenances thereof, used for the combustion of refuse, salvage materials or any other combustible material except fossil fuels, for the purpose of reducing the volume of material.
55. "Indian governing body" means the governing body of any tribe, band, or group of Indians subject to the jurisdiction of the United States and recognized by the United States as possessing power of self-government.
56. "Indian reservation" means any federally recognized reservation established by Treaty, Agreement, Executive Order, or Act of Congress.
57. "Insignificant activity" means an activity in an emissions unit that is not otherwise subject to any applicable requirement and which belongs to 1 of the following categories:

- a. Landscaping, building maintenance, or janitorial activities.
 - b. Gasoline storage tanks with capacity of 10,000 gallons or less.
 - c. Diesel and fuel oil storage tanks with capacity of 40,000 gallons or less.
 - d. Batch mixers with rated capacity of 5 cubic feet or less.
 - e. Wet sand and gravel production facilities that obtain material from subterranean and subaqueous beds, whose production rate is 200 tons/hour or less, and whose permanent in-plant roads are paved and cleaned to control dust. This does not include activities in emissions units which are used to crush or grind any non-metallic minerals.
 - f. Hand-held or manually operated equipment used for buffing, polishing, carving, cutting, drilling, machining, routing, sanding, sawing, surface grinding, or turning of ceramic art work, precision parts, leather, metals, plastics, fiberboard, masonry, carbon, glass, or wood.
 - g. Powder coating operations.
 - h. Internal combustion (IC) engine-driven compressors, IC engine-driven electrical generator sets, and IC engine-driven water pumps used only for emergency replacement or standby service.
 - i. Lab equipment used exclusively for chemical and physical analyses.
 - j. Any other activity which the Director determines is not necessary, because of its emissions due to size or production rate, to be included in an application in order to determine all applicable requirements and to calculate any fee under this Chapter.
58. "Kraft pulp mill" means any stationary source which produces pulp from wood by cooking or digesting wood chips in a water solution of sodium hydroxide and sodium sulfide at high temperature and pressure. Regeneration of the cooking chemicals through a recovery process is also considered part of the kraft pulp mill.
59. "Lead" means elemental lead or alloys in which the predominant component is lead.
60. "Lime hydrator" means a unit used to produce hydrated lime product.
61. "Lime plant" includes any plant which produces a lime product from limestone by calcination. Hydration of the lime product is also considered to be part of the source.
62. "Lime product" means any product produced by the calcination of limestone.
63. "Major modification" means any physical change or change in the method of operation of a major source that would result in a significant net emissions increase of any regulated air pollutant.
- a. Any net emissions increase that is significant for volatile organic compounds is significant for ozone.
 - b. Any net emissions increase that is significant for oxides of nitrogen is significant for ozone for ozone nonattainment areas classified as marginal, moderate, serious, or severe.
 - c. For the purposes of this definition the following are not a physical change or change in the method of operation:
 - i. Routine maintenance, repair, and replacement;
 - ii. Use of an alternative fuel or raw material by reason of an order under Sections 2(a) and (b) of the Energy Supply and Environmental Coordination Act of 1974, 15 U.S.C. 792, or by reason of a natural gas curtailment plan under the Federal Power Act, 16 U.S.C. 792 - 825r;
- iii. Use of an alternative fuel by reason of an order or rule under Section 125 of the Act;
 - iv. Use of an alternative fuel at a steam generating unit to the extent that the fuel is generated from municipal solid waste;
 - v. Use of an alternative fuel or raw material by a stationary source that either:
 - (1) The source was capable of accommodating before December 12, 1976, unless the change would be prohibited under any federally enforceable permit condition established after December 12, 1976, under 40 CFR 52.21, or under Articles 3 or 4 of this Chapter; or
 - (2) The source is approved to use under any permit issued under 40 CFR 52.21, or under Articles 3 or 4 of this Chapter.
 - vi. An increase in the hours of operation or in the production rate, unless the change would be prohibited under any federally enforceable permit condition established after December 12, 1976, under 40 CFR 52.21, or under Articles 3 or 4 of this Chapter.
 - vii. Any change in ownership at a stationary source;
 - viii. The addition, replacement, or use of a pollution control project at an existing electric utility steam generating unit, unless the Director determines that the addition, replacement, or use renders the unit less environmentally beneficial, or except:
 - (1) When the Director has reason to believe that the pollution control project would result in a significant net increase in representative actual annual emissions of any criteria pollutant over levels used for that source in the most recent Title I air quality impact analysis in the area, if any, and
 - (2) The Director determines that the increase will cause or contribute to a violation of any national ambient air quality standard or PSD increment, or visibility limitation;
 - ix. The installation, operation, cessation, or removal of a temporary clean coal technology demonstration project, if the project complies with:
 - (1) The SIP and
 - (2) Other requirements necessary to attain and maintain the national ambient air quality standards during the project and after it is terminated;
 - x. For electric utility steam generating units located in attainment and unclassifiable areas only, the installation or operation of a permanent clean coal technology demonstration project that constitutes repowering, if the project does not result in an increase in the potential to emit any regulated pollutant emitted by the unit. This exemption applies on a pollutant-by-pollutant basis; and
 - xi. For electric utility steam generating units located in attainment and unclassifiable areas only, the reactivation of a very clean coal-fired electric utility steam generating unit.

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64. "Major source" means:
- a. A major source as defined in R18-2-401.
 - b. A major source under Section 112 of the Act:
 - i. For pollutants other than radionuclides, any stationary source that emits or has the potential to emit, in the aggregate, including fugitive emission 10 tons per year (tpy) or more of any hazardous air pollutant which has been listed pursuant to Section 112(b) of the Act, 25 tpy or more of any combination of such hazardous air pollutants, or such lesser quantity as described in Article 11 of this Chapter. Notwithstanding the preceding sentence, emissions from any oil or gas exploration or production well (with its associated equipment) and emissions from any pipeline compressor or pump station shall not be aggregated with emissions from other similar units, whether or not such units are in a contiguous area or under common control, to determine whether such units or stations are major sources; or
 - ii. For radionuclides, "major source" shall have the meaning specified by the Administrator by rule.
 - c. A major stationary source, as defined in Section 302 of the Act, that directly emits or has the potential to emit, 100 tpy or more of any air pollutant including any major source of fugitive emissions of any such pollutant. The fugitive emissions of a stationary source shall not be considered in determining whether it is a major stationary source for the purposes of Section 302(j) of the Act, unless the source belongs to 1 of the following categories of stationary source:
 - i. Coal cleaning plants (with thermal dryers).
 - ii. Kraft pulp mills.
 - iii. Portland cement plants.
 - iv. Primary zinc smelters.
 - v. Iron and steel mills.
 - vi. Primary aluminum ore reduction plants.
 - vii. Primary copper smelters.
 - viii. Municipal incinerators capable of charging more than 50 tons of refuse per day.
 - ix. Hydrofluoric, sulfuric, or nitric acid plants.
 - x. Petroleum refineries.
 - xi. Lime plants.
 - xii. Phosphate rock processing plants.
 - xiii. Coke oven batteries.
 - xiv. Sulfur recovery plants.
 - xv. Carbon black plants (furnace process).
 - xvi. Primary lead smelters.
 - xvii. Fuel conversion plants.
 - xviii. Sintering plants.
 - xix. Secondary metal production plants.
 - xx. Chemical process plants.
 - xxi. Fossil-fuel boilers (or combination thereof) totaling more than 250 million British thermal units per hour heat input.
 - xxii. Petroleum storage and transfer units with a total storage capacity exceeding 300,000 barrels.
 - xxiii. Taconite ore processing plants.
 - xxiv. Glass fiber processing plants.
 - xxv. Charcoal production plants.
 - xxvi. Fossil-fuel-fired steam electric plants of more than 250 million British thermal units per hour heat input.
 - xxvii. All other stationary source categories regulated by a standard promulgated as of August 7, 1980, under Section 111 or 112 of the Act, but only with respect to those air pollutants that have been regulated for that category.
65. "Malfunction" means any sudden and unavoidable failure of air pollution control equipment, process equipment or a process to operate in a normal and usual manner, but does not include failures that are caused by poor maintenance, careless operation or any other upset condition or equipment breakdown which could have been prevented by the exercise of reasonable care.
66. "Minor source" means a source of air pollution which is not a major source for the purposes of Article 4 of this Chapter and over which the Director, acting pursuant to A.R.S. § 49-402(B), has asserted jurisdiction.
67. "Minor source baseline area" means the air quality control region in which the source is located.
68. "Monitoring device" means the total equipment, required under the applicable provisions of this Chapter, used to measure and record, if applicable, process parameters.
69. "Motor vehicle" means any self-propelled vehicle designed for transporting persons or property on public highways.
70. "Multiple chamber incinerator" means 3 or more refractory-lined combustion chambers in series, physically separated by refractory walls and interconnected by gas passage ports or ducts.
71. "Necessary preconstruction approvals or permits" means those permits or approvals required under the Act and those air quality control laws and rules which are part of the SIP.
72. "Net emissions increase" means:
- a. The amount by which the sum of subsections (69)(a)(i) and (ii) exceeds zero:
 - i. Any increase in actual emissions from a particular physical change or change in the method of operation at a stationary source; and
 - ii. Any other increases and decreases in actual emissions at the source that are contemporaneous with the particular change and are otherwise creditable.
 - b. An increase or decrease in actual emissions is contemporaneous with the increase from the particular change only if it occurs between:
 - i. The date 5 years before construction on the particular change commences; and
 - ii. The date that the increase from the particular change occurs.
 - c. An increase or decrease in actual emissions is creditable only if the Director has not relied on it in issuing a permit, which is in effect when the increase in actual emissions from the particular change occurs. In addition, in nonattainment areas, a decrease in actual emissions shall be considered in determining net emissions increase due to modifications only if the state has not relied on it in demonstrating attainment or reasonable further progress.
 - d. An increase or decrease in actual emissions of sulfur dioxide, nitrogen oxides, or PM-10 which occurs before the applicable baseline date, as described in R18-2-218, is creditable only if it is required to be considered in calculating the amount of maximum allowable increases remaining available.

- e. An increase in actual emissions is creditable only to the extent that the new level of actual emissions exceeds the old level.
 - f. A decrease in actual emissions is creditable only to the extent that:
 - i. The old level of actual emissions or the old level of allowable emissions, whichever is lower, exceeds the new level of actual emissions;
 - ii. It is federally enforceable at and after the time that actual construction on the particular change begins;
 - iii. It has approximately the same qualitative significance for public health and welfare as that attributed to the increase from the particular change; and
 - iv. The emissions unit was actually operated and emitted the specific pollutant.
 - g. An increase that results from a physical change at a source occurs when the emissions unit on which construction occurred becomes operational and begins to emit a particular pollutant. Any replacement unit that requires shakedown becomes operational only after a reasonable shakedown period, not to exceed 180 days.
73. "New source" means any stationary source of air pollution which is subject to an applicable new source performance standard under Article 9 of this Chapter.
 74. "Nitric acid plant" means any facility producing nitric acid 30% to 70% in strength by either the pressure or atmospheric pressure process.
 75. "Nitrogen oxides" means all oxides of nitrogen except nitrous oxide, as measured by test methods set forth in the Appendices to 40 CFR 60.
 76. "Nonattainment area" means an area so designated by the Administrator acting pursuant to Section 107 of the Act as exceeding national primary or secondary ambient air standards for a particular pollutant or pollutants.
 77. "Nonpoint source" means a source of air contaminants which lacks an identifiable plume or emission point.
 78. "Opacity" means the degree to which emissions reduce the transmission of light and obscure the view of an object in the background.
 79. "Operation" means any physical or chemical action resulting in the change in location, form, physical properties, or chemical character of a material.
 80. "Owner or operator" means any person who owns, leases, operates, controls, or supervises an affected facility or a stationary source of which an affected facility is a part.
 81. "Particulate matter" means any airborne finely divided solid or liquid material with an aerodynamic diameter smaller than 100 micrometers.
 82. "Particulate matter emissions" means all finely divided solid or liquid materials other than uncombined water, emitted to the ambient air as measured by applicable test methods and procedures described in R18-2-311.
 83. "Pollution control project" means any activity or project undertaken at an existing electric utility steam generating unit to reduce emissions from the unit. The activities or projects are limited to:
 - a. The installation of conventional or innovative pollution control technology, including advanced flue gas desulfurization, sorbent injection for sulfur dioxide and nitrogen oxides controls, and electrostatic precipitators;
 - b. An activity or project to accommodate switching to a fuel less polluting than the fuel used before the activity or project, including natural gas or coal reburning, or the co-firing of natural gas and other fuels for the purpose of controlling emissions;
 - c. A permanent clean coal technology demonstration project conducted under Title II, section 101(d) of the Further Continuing Appropriations Act of 1985 (42 U.S.C. 5903(d)), or subsequent appropriations, up to a total amount of \$2,500,000,000 for commercial demonstration of clean coal technology, or similar projects funded through appropriations for the Environmental Protection Agency, or
 - d. A permanent clean coal technology demonstration project that constitutes a repowering project.
 84. "PM10" means particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers as measured by a reference method contained within 40 CFR 50 Appendix J or by an equivalent method designated in accordance with 40 CFR 53.
 85. "PM10 emissions" means finely divided solid or liquid material, with an aerodynamic diameter less than or equal to a nominal 10 micrometers emitted to the ambient air as measured by applicable test methods and procedures described in R18-2-311.
 86. "Plume" means visible effluent.
 87. "Pollutant" means an air contaminant the emission or ambient concentration of which is regulated pursuant to this Chapter.
 88. "Portable source" means any building, structure, facility, or installation subject to regulation pursuant to A.R.S. § 49-426 which emits or may emit any air pollutant and is capable of being operated at more than 1 location.
 89. "Potential to emit" or "potential emission rate" means the maximum capacity of a stationary source to emit a pollutant, excluding secondary emissions, under its physical and operational design. Any physical or operational limitation on the capacity of the source to emit a pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored, or processed, shall be treated as part of its design if the limitation or the effect it would have on emissions is federally enforceable.
 90. "Primary ambient air quality standards" means the ambient air quality standards which define levels of air quality necessary, with an adequate margin of safety, to protect the public health, as specified in Article 2 of this Chapter.
 91. "Process" means 1 or more operations, including equipment and technology, used in the production of goods or services or the control of by-products or waste.
 92. "Proposed permit" means the version of a permit for which the Director offers public participation under R18-2-330 or affected state review under R18-2-307(D).
 93. "Proposed final permit" means the version of a Class I permit that the Department proposes to issue and forwards to the Administrator for review in compliance with R18-2-307(A).
 94. "Reactivation of a very clean coal-fired electric utility steam generating unit" means any physical change or change in the method of operation associated with commencing commercial operations by a coal-fired utility unit after a period of discontinued operation if the unit:
 - a. Has not been in operation for the 2-year period before enactment of the Clean Air Act Amendments of 1990, and the emissions from the unit continue to

- b. Was equipped before shutdown with a continuous system of emissions control that achieves a removal efficiency for sulfur dioxide of no less than 85% and a removal efficiency for particulates of no less than 98%;
 - c. Is equipped with low-NOx burners before commencement of operations following reactivation; and
 - d. Is otherwise in compliance with the Act.
95. "Reclaiming machinery" means any machine, equipment device or other article used for picking up stored granular material and either depositing this material on a conveyor or reintroducing this material into the process.
96. "Reference method" means the methods of sampling and analyzing for an air pollutant as described in the Arizona Testing Manual; 40 CFR 50, Appendices A through K; 40 CFR 52, Appendices D and E; 40 CFR 60, Appendices A through F; and 40 CFR 61, Appendices B and C.
97. "Regulated air pollutant" means any of the following:
- a. Any conventional air pollutant as defined in A.R.S. § 49-401.01.
 - b. Nitrogen oxides and volatile organic compounds.
 - c. Any air contaminant that is subject to a standard contained in Article 9 of this Chapter.
 - d. Any hazardous air pollutant as defined in A.R.S. § 49-401.01.
 - e. Any Class I or II substance listed in Section 602 of the Act.
98. "Repowering" means:
- a. Replacing an existing coal-fired boiler with 1 of the following clean coal technologies:
 - i. Atmospheric or pressurized fluidized bed combustion;
 - ii. Integrated gasification combined cycle;
 - iii. Magnetohydrodynamics;
 - iv. Direct and indirect coal-fired turbines;
 - v. Integrated gasification fuel cells; or
 - vi. As determined by the Administrator, in consultation with the United States Secretary of Energy, a derivative of 1 or more of the above technologies; and
 - vii. Any other technology capable of controlling multiple combustion emissions simultaneously with improved boiler or generation efficiency and with significantly greater waste reduction relative to the performance of technology in widespread commercial use as of November 15, 1990.
 - b. Repowering also includes any oil, gas, or oil and gas-fired unit that has been awarded clean coal technology demonstration funding as of January 1, 1991, by the United States Department of Energy.
 - c. The Director shall give expedited consideration to permit applications for any source that satisfies the requirements of this subsection and is granted an extension under section 409 of the Act.
99. "Representative actual annual emissions" means the average rate, in tons per year, at which a source is projected to emit a pollutant for the 2-year period after a physical change or change in the method of operation of a unit, (or a different consecutive 2-year period within 10 years after that change, if the Director determines that the different period is more representative of source operations), considering the effect the change will have on increasing or

decreasing the hourly emissions rate and on projected capacity utilization. In projecting future emissions the Director shall:

- a. Consider all relevant information, including historical operational data, the company's representations, filings with Arizona or federal regulatory authorities, and compliance plans under Title IV of the Act; and
 - b. Exclude, in calculating any increase in emissions that results from the particular physical change or change in the method of operation at an electric utility steam generating unit, that portion of the unit's emissions following the change that could have been accommodated during the representative baseline period and is attributable to an increase in projected capacity utilization at the unit unrelated to the particular change, including any increased utilization due to the rate of electricity demand growth for the utility system as a whole.
100. "Run" means the net period of time during which an emission sample is collected, which may be, unless otherwise specified, either intermittent or continuous within the limits of good engineering practice.
101. "Secondary ambient air quality standards" means the ambient air quality standards which define levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant, as specified in Article 2 of this Chapter.
102. "Secondary emissions" means emissions which are specific, well defined, quantifiable, occur as a result of the construction or operation of a major source or major modification, but do not come from the major source or major modification itself, and impact the same general area as the stationary source or modification which causes the secondary emissions. Secondary emissions include emissions from any offsite support facility which would not otherwise be constructed or increase its emissions as a result of the construction or operation of the major source or major modification. Secondary emissions do not include any emissions which come directly from a mobile source, such as emissions from the tailpipe of a motor vehicle, from a train, or from a vessel.
103. "Shutdown" means the cessation of operation of any air pollution control equipment or process equipment for any purpose, except routine phasing out of process equipment.
104. "Significant" means:
- a. In reference to a net emissions increase or the potential of a source to emit any of the following pollutants, a rate of emissions that would equal or exceed any of the following rates:

Pollutant	Emissions Rate
Carbon monoxide	100 tons per year (tpy)
Nitrogen oxides	40 tpy
Sulfur dioxide	40 tpy
Particulate matter	25 tpy
PM10	15 tpy
VOC	40 tpy
Lead	0.6 tpy
Fluorides	3 tpy
Sulfuric acid mist	7 tpy
Hydrogen sulfide (H ₂ S)	10 tpy
Total reduced sulfur (including H ₂ S)	10 tpy

- | | | |
|--|----------------------------|--|
| Reduced sulfur compounds
(including H ₂ S) | 10 tpy | |
| Municipal waste combustor
organics (measured as
total tetra-through octa-
chlorinated dibenzo-
p-dioxins and
dibenzofurans) | 3.5 x 10 ⁻⁶ tpy | |
| Municipal waste combustor
metals (measured as
particulate matter) | 15 tpy | |
| Municipal waste combustor
acid gases (measured as
sulfur dioxide and
hydrogen chloride) | 40 tpy | |
| Municipal solid waste landfill emissions
(measured as nonmethane
organic compounds) | 50 tpy | |
- b. In ozone nonattainment areas classified as serious or severe, significant emissions of VOC shall be determined under R18-2-405.
 - c. For a regulated air pollutant that is not listed in subsection (a), is not a Class I or II substance listed in Section 602 of the Act, and is not a hazardous air pollutant according to A.R.S. § 49-401.01(11), any emission rate.
 - d. Notwithstanding the emission amount listed in subsection (a), any emissions rate or any net emissions increase associated with a major source or major modification, which would be constructed within 10 kilometers of a Class I area and have an impact on the ambient air quality of such area equal to or greater than 1 µg/m³ (24-hour average).
105. "Smoke" means particulate matter resulting from incomplete combustion.
 106. "Stack" means any point in a source designed to emit solids, liquids, or gases into the air, including a pipe or duct but not including flares.
 107. "Stack in existence" means that the owner or operator had either:
 - a. Begun, or caused to begin, a continuous program of physical on-site construction of the stack;
 - b. Entered into binding agreements or contractual obligations, which could not be cancelled or modified without substantial loss to the owner or operator, to undertake a program of construction of the stack to be completed in a reasonable time.
 108. "Start-up" means the setting into operation of any air pollution control equipment or process equipment for any purpose except routine phasing in of process equipment.
 109. "State implementation plan" (SIP) means the plan adopted by the state of Arizona which provides for implementation, maintenance, and enforcement of such primary and secondary ambient air quality standards as are adopted by the Administrator, pursuant to the Act.
 110. "Stationary rotating machinery" means any gas engine, diesel engine, gas turbine, or oil fired turbine operated from a stationary mounting and used for the production of electric power or for the direct drive of other equipment.
 111. "Stationary source" means any building, structure, facility or installation subject to regulation pursuant to A.R.S. § 49-426(A) which emits or may emit any air pollutant. "Building", "structure", "facility", or "installation" means all of the pollutant-emitting activities which belong to the same industrial grouping, are located on 1 or more contiguous or adjacent properties, and are under the control of the same person or persons under common control. Pollutant-emitting activities shall be considered as part of the same industrial grouping if they belong to the same "Major Group" as described in the "Standard Industrial Classification Manual, 1987".
 112. "Sulfuric acid plant" means any facility producing sulfuric acid by the contact process by burning elemental sulfur, alkylation acid, hydrogen sulfide, or acid sludge, but does not include facilities where conversion to sulfuric acid is utilized as a means of preventing emissions of sulfur dioxide or other sulfur compounds to the atmosphere.
 113. "Temporary clean coal technology demonstration project" means a clean coal technology demonstration project operated for 5 years or less, and that complies with the SIP and other requirements necessary to attain and maintain the national ambient air quality standards during the project and after the project is terminated.
 114. "Temporary source" means a source which is portable, as defined in A.R.S. § 49-401.01(23) and which is not an affected source.
 115. "Total reduced sulfur" (TRS) means the sum of the sulfur compounds, primarily hydrogen sulfide, methyl mercaptan, dimethyl sulfide, and dimethyl disulfide, that are released during kraft pulping and other operations and measured by Method 16 in 40 CFR 60, Appendix A.
 116. "Total suspended particulate" (TSP) means particulate matter as measured by the reference method described in 40 CFR 50, Appendix B, plus any particulate matter from fugitive emissions quantified by methods approved by the Director.
 117. "Trivial activities" means activities and emissions units, such as the following, that may be omitted from a Class I or Class II permit application. Certain of the following listed activities include qualifying statements intended to exclude similar activities:
 - a. Combustion emissions from propulsion of mobile sources;
 - b. Air-conditioning units used for human comfort that do not have applicable requirements under title VI of the Act;
 - c. Ventilating units used for human comfort that do not exhaust air pollutants into the ambient air from any manufacturing, industrial or commercial process;
 - d. Non-commercial food preparation;
 - e. Janitorial services and consumer use of janitorial products;
 - f. Internal combustion engines used for landscaping purposes;
 - g. Laundry activities, except for dry-cleaning and steam boilers;
 - h. Bathroom and toilet vent emissions;
 - i. Emergency or backup electrical generators at residential locations;
 - j. Tobacco smoking rooms and areas;
 - k. Blacksmith forges;
 - l. Plant maintenance and upkeep activities, including grounds-keeping, general repairs, cleaning, painting, welding, plumbing, re-tarring roofs, installing insulation, and paving parking lots, if these activities are not conducted as part of a manufacturing process, are not related to the source's primary business activity, and do not otherwise trigger a permit revision. Cleaning and painting activities qualify as trivial activities if they are not subject to VOC or hazardous air pollutant (HAP) control requirements;

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- m. Repair or maintenance shop activities not related to the source's primary business activity, not including emissions from surface coating, de-greasing, or solvent metal cleaning activities, and not otherwise triggering a permit revision;
 - n. Portable electrical generators that can be moved by hand from 1 location to another. "Moved by hand" means capable of being moved without the assistance of any motorized or non-motorized vehicle, conveyance, or device;
 - o. Hand-held equipment for buffing, polishing, cutting, drilling, sawing, grinding, turning, or machining wood, metal, or plastic;
 - p. Brazing, soldering, and welding equipment, and cutting torches related to manufacturing and construction activities that do not result in emission of HAP metals. Brazing, soldering, and welding equipment, and cutting torches related to manufacturing and construction activities that emit HAP metals are insignificant activities based on size or production level thresholds. Brazing, soldering, and welding equipment, and cutting torches directly related to plant maintenance and upkeep and repair or maintenance shop activities that emit HAP metals are treated as trivial and listed separately in this definition;
 - q. Air compressors and pneumatically operated equipment, including hand tools;
 - r. Batteries and battery charging stations, except at battery manufacturing plants;
 - s. Storage tanks, vessels, and containers holding or storing liquid substances that will not emit any VOC or HAP;
 - t. Storage tanks, reservoirs, and pumping and handling equipment of any size containing soaps, vegetable oil, grease, animal fat, and nonvolatile aqueous salt solutions, if appropriate lids and covers are used;
 - u. Equipment used to mix and package soaps, vegetable oil, grease, animal fat, and nonvolatile aqueous salt solutions, if appropriate lids and covers are used;
 - v. Drop hammers or hydraulic presses for forging or metalworking;
 - w. Equipment used exclusively to slaughter animals, not including other equipment at slaughterhouses, such as rendering cookers, boilers, heating plants, incinerators, and electrical power generating equipment;
 - x. Vents from continuous emissions monitors and other analyzers;
 - y. Natural gas pressure regulator vents, excluding venting at oil and gas production facilities;
 - z. Hand-held applicator equipment for hot melt adhesives with no VOC in the adhesive formulation;
 - aa. Equipment used for surface coating, painting, dipping, or spraying operations, except those that will emit VOC or HAP;
 - bb. CO(2) lasers used only on metals and other materials that do not emit HAP in the process;
 - cc. Electric or steam-heated drying ovens and autoclaves, but not the emissions from the articles or substances being processed in the ovens or autoclaves or the boilers delivering the steam;
 - dd. Salt baths using nonvolatile salts that do not result in emissions of any regulated air pollutants;
 - ee. Laser trimmers using dust collection to prevent fugitive emissions;
 - ff. Bench-scale laboratory equipment used for physical or chemical analysis, but not laboratory fume hoods or vents;
 - gg. Routine calibration and maintenance of laboratory equipment or other analytical instruments;
 - hh. Equipment used for quality control, quality assurance, or inspection purposes, including sampling equipment used to withdraw materials for analysis;
 - ii. Hydraulic and hydrostatic testing equipment;
 - jj. Environmental chambers not using HAP gases;
 - kk. Shock chambers;
 - ll. Humidity chambers;
 - mm. Solar simulators;
 - nn. Fugitive emissions related to movement of passenger vehicles, if the emissions are not counted for applicability purposes under R18-2-101(64)(c) and any required fugitive dust control plan or its equivalent is submitted with the application;
 - oo. Process water filtration systems and demineralizers;
 - pp. Demineralized water tanks and demineralizer vents;
 - qq. Oxygen scavenging or de-aeration of water;
 - rr. Ozone generators;
 - ss. Fire suppression systems;
 - tt. Emergency road flares;
 - uu. Steam vents and safety relief valves;
 - ww. Steam leaks; and
 - xx. Steam cleaning operations and steam sterilizers
118. "Unclassified area" means an area which the Administrator, because of a lack of adequate data, is unable to classify as an attainment or nonattainment area for a specific pollutant, and which, for purposes of this Chapter, is treated as an attainment area.
119. "Uncombined water" means condensed water containing analytical trace amounts of other chemical elements or compounds.
120. "Urban or suburban open area" means an unsubdivided tract of land surrounding a substantial urban development of a residential, industrial, or commercial nature and which, though near or within the limits of a city or town, may be uncultivated, used for agriculture, or lie fallow.
121. "Vacant lot" means a subdivided residential or commercial lot which contains no buildings or structures of a temporary or permanent nature.
122. "Vapor" means the gaseous form of a substance normally occurring in a liquid or solid state.
123. "Visibility impairment" means any humanly perceptible change in visibility from that which would have existed under natural conditions.
124. "Visible emissions" means any emissions which are visually detectable without the aid of instruments and which contain particulate matter.
125. "Volatile organic compounds (VOC)" means any compound of carbon, excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate, that participates in atmospheric photochemical reactions. This includes any such organic compound other than the following:
- a. Methane;
 - b. Ethane;
 - c. Methylene chloride (dichloromethane);
 - d. 1,1,1-trichloroethane (methyl chloroform);
 - e. 1,1,2-trichloro-1,2,2-trifluoroethane (CFC-113);
 - f. Trichlorofluoromethane (CFC-11);
 - g. Dichlorodifluoromethane (CFC-12);

- h. Chlorodifluoromethane (HCFC-22);
 - i. Trifluoromethane (HFC-23);
 - j. 1,2-dichloro 1,1,2,2-tetrafluoroethane (CFC-114);
 - k. Chloropentafluoroethane (CFC-115);
 - l. 1,1,1-trifluoro 2,2-dichloroethane (HCFC-123);
 - m. 1,1,1,2-tetrafluoroethane (HFC-134a);
 - n. 1,1-dichloro 1-fluoroethane (HCFC-141b);
 - o. 1-chloro 1,1-difluoroethane (HCFC-142b);
 - p. 2-chloro-1,1,1,2-tetrafluoroethane (HCFC-124);
 - q. Pentafluoroethane (HFC-125);
 - r. 1,1,2,2-tetrafluoroethane (HFC-134);
 - s. 1,1,1-trifluoroethane (HFC-143a);
 - t. 1,1-difluoroethane (HFC-152a);
 - u. Parachlorobenzotrifluoride (PCBTF);
 - v. Cyclic, branched, or linear completely methylated siloxanes;
 - w. Acetone;
 - x. Perchloroethylene (tetrachloroethylene);
 - y. 3,3-dichloro-1,1,1,2,2-pentafluoropropane (HCFC-225ca);
 - z. 1,3-dichloro-1,1,2,2,3-pentafluoropropane (HCFC-225cb);
 - aa. 1,1,1,2,3,4,4,5,5,5-decafluoropentane (HFC 43-10mee);
 - bb. Difluoromethane (HFC-32);
 - cc. Ethylfluoride (HFC-161);
 - dd. 1,1,1,3,3,3-hexafluoropropane (HFC-236fa);
 - ee. 1,1,2,2,3-pentafluoropropane (HFC-245ca);
 - ff. 1,1,2,3,3-pentafluoropropane (HFC-245ea);
 - gg. 1,1,1,2,3-pentafluoropropane (HFC-245eb);
 - hh. 1,1,1,3,3-pentafluoropropane (HFC-245fa);
 - ii. 1,1,1,2,3,3-hexafluoropropane (HFC-236ea);
 - jj. 1,1,1,3,3-pentafluorobutane (HFC-365mfc);
 - kk. Chlorofluoromethane (HCFC-31);
 - ll. 1 chloro-1-fluoroethane (HCFC-151a);
 - mmm. 1,2-dichloro-1,1,2-trifluoroethane (HCFC-123a);
 - nn. 1,1,1,2,2,3,3,4,4-nonafluoro-4-methoxy-butane (C₄F₉OCH₃);
 - oo. 2-(difluoromethoxymethyl)-1,1,1,2,3,3,3-heptafluoropropane ((CF₃)₂CFCF₂OCH₃);
 - pp. 1-ethoxy-1,1,2,2,3,3,4,4,4-nonafluorobutane (C₄F₉OC₂H₅);
 - qq. 2-(ethoxydifluoromethyl)-1,1,1,2,3,3,3-heptafluoropropane ((CF₃)₂CFCF₂OC₂H₅);
 - rr. Methyl acetate; and
 - ss. Perfluorocarbon compounds that fall into these classes:
 - i. Cyclic, branched, or linear, completely fluorinated alkanes.
 - ii. Cyclic, branched, or linear, completely fluorinated ethers with no unsaturations.
 - iii. Cycle, branched, or linear, completely fluorinated tertiary amines with no unsaturations; or
 - iv. Sulfur containing perfluorocarbons with no unsaturations and with sulfur bonds only to carbon and fluorine.
126. "Wood waste burner" means an incinerator designed and used exclusively for the burning of wood wastes consisting of wood slabs, scraps, shavings, barks, sawdust or other wood material, including those that generate steam as a by-product.

Historical Note

Former Section R9-3-101 repealed, new Section R9-3-101 adopted effective May 14, 1979 (Supp. 79-1). Amended effective October 2, 1979 (Supp. 79-5). Editorial correction, paragraph (133) (Supp. 80-1). Editorial

correction, paragraph (58) (Supp. 80-2). Amended effective July 9, 1980. Amended by adding new paragraphs (24), (55), (102), and (115) and renumbering accordingly, effective August 29, 1980 (Supp. 80-4). Amended effective May 28, 1982 (Supp. 82-3). Amended effective September 22, 1983 (Supp. 83-5). Amended paragraph (133), added paragraph (156) and renumbered accordingly effective September 28, 1984 (Supp. 84-5). Amended paragraph (29) by deleting (aa) and (bb) effective August 9, 1985 (Supp. 85-4). Former Section R9-3-101 renumbered without change as R18-2-101 (Supp. 87-3). Amended paragraph (98) effective December 1, 1988 (Supp. 88-4). Amended effective September 26, 1990 (Supp. 90-3). Amended effective November 15, 1993 (Supp. 93-4). Amended effective June 10, 1994 (Supp. 94-2). Amended effective October 7, 1994 (Supp. 94-4). Amended effective February 28, 1995 (Supp. 95-1). Amended effective August 1, 1995 (Supp. 95-3). Amended effective January 31, 1997; filed with the Office of Secretary of State January 10, 1997 (Supp. 97-1). Amended effective June 4, 1998 (Supp. 98-2). Amended by final rulemaking at 5 A.A.R. 4074, effective September 22, 1999 (Supp. 99-3).

R18-2-102. Incorporated Materials

The following documents are incorporated by reference and are on file with the Office of the Secretary of State and the Department:

1. The Department's "Arizona Testing Manual for Air Pollutant Emissions", amended as of March 1992 (and no future editions).
2. All ASTM test methods referenced in this Chapter as of the year specified in the reference (and no future amendments). They are available from the American Society for Testing and Materials, 1916 Race St., Philadelphia, PA 19103-1187.
3. The U.S. Government Printing Office's "Standard Industrial Classification Manual, 1987" (and no future editions).

Historical Note

Adopted effective September 26, 1990 (Supp. 90-3). Amended effective February 3, 1993 (Supp. 93-1). Amended effective November 15, 1993 (Supp. 93-4). Amended effective June 10, 1994 (Supp. 94-2). Amended effective December 7, 1995 (Supp. 95-4). Amended by final rulemaking at 5 A.A.R. 3221, effective August 12, 1999 (Supp. 99-3).

R18-2-103. Applicable Implementation Plan; Savings

No rule adopted in this Chapter shall preempt or nullify any applicable requirement or emission standard in an applicable implementation plan unless the Director revises the applicable implementation plan in conformance with the requirements of 40 CFR 51, Subpart F, and the Administrator approves the revision.

Historical Note

Adopted effective September 26, 1990 (Supp. 90-3). Section repealed, new Section adopted effective November 15, 1993 (Supp. 93-4).

ARTICLE 2. AMBIENT AIR QUALITY STANDARDS; AREA DESIGNATIONS; CLASSIFICATIONS**R18-2-201. Particulate matter**

A. The primary ambient air quality standards for particulate matter are:

1. 50 micrograms per cubic meter of PM₁₀ -- annual arithmetic mean concentration.

- C. The provisions of subsection (A) shall not apply to any of the following:
 1. The annual and quarterly standards.
 2. The standards for ozone prescribed in R18-2-203.
 3. The primary and secondary 24-hour PM10 standards prescribed in R18-2-201.

Historical Note

Adopted effective May 14, 1979 (Supp. 79-1). Former Section R9-3-218 repealed, new Section R9-3-218 adopted effective September 22, 1983 (Supp. 83-5). Former Section R9-3-218 renumbered without change as Section R18-2-218 (Supp. 87-3). Former Section R18-2-219 renumbered to R18-2-220, new Section R18-2-219 renumbered from R18-2-218 and amended effective September 26, 1990 (Supp. 90-3).

R18-2-220. Air pollution emergency episodes

- A. Procedures shall be implemented by the Director in order to prevent the occurrence of ambient air pollutant concentrations which would cause significant harm to the health of persons, as specified in subsection (B)(4). The procedures and actions required for each stage are described in the Department's "Procedures for Prevention of Emergency Episodes", amended as of October 18, 1988 (and no future edition), which is incorporated herein by reference and on file with the Office of the Secretary of State.
- B. The following stages are identified by air quality criteria in order to provide for sequential emissions reductions, public notification and increased Department monitoring and forecast responsibilities. The declaration of any stage, and the area of the state affected, shall be based on air quality measurements and meteorological analysis and forecast.

1. A Stage I air pollution alert shall be declared when any of the alert level concentrations listed in subsection (B)(4) are exceeded at any monitoring site and when meteorological conditions indicate that there will be a continuance or recurrence of alert level concentrations for the same pollutant during the subsequent 24-hour period. If, 48 hours after an alert has been initially declared, air pollution concentrations and meteorological conditions do not improve, the warning stage control actions shall be implemented but no warning shall be declared, unless air quality has deteriorated to the extent described in subsection (B)(2).
2. A Stage II air pollution warning shall be declared when any of the warning level concentrations listed in subsection (B)(4) are exceeded at any monitoring site and when meteorological conditions indicate that there will be a continuance or recurrence of concentrations of the same pollutant exceeding the warning level during the subsequent 24-hour period. If, 48 hours after a warning has been initially declared, air pollution concentrations and meteorological conditions do not improve, the emergency stage shall be declared and its control actions implemented.
3. A Stage III air pollution emergency shall be declared when any of the emergency level concentrations listed in subsection (B)(4) are exceeded at any monitoring site and when meteorological conditions indicate that there will be a continuance or recurrence of concentrations of the same pollutant exceeding the emergency level during the subsequent 24-hour period.
4. Summary of emergency episode and significant harm levels:

Pollutant	Averaging Time	Alert	Warning	Emergency	Significant Harm
Carbon monoxide (mg/m3)	1-hr	-	-	-	144
	4-hr	-	-	-	86.3
	8-hr	17	34	46	57.5
Nitrogen dioxide (ug/m3)	1-hr	1,130	2,260	3,000	3,750
	24-hr	282	565	750	938
Ozone (ppm)	1-hr	.2	.4	.5	.6
PM10 (ug/m3)	24-hr	350	420	500	600
Sulfur dioxide (ug/m3)	24-hr	800	1,600	2,100	2,620

Historical Note

Adopted effective May 14, 1979 (Supp. 79-1). Editorial correction, subsection (B), paragraph (2) (Supp. 80-1). Editorial correction, subsection (A) (Supp. 80-2). Former Section R9-3-219 repealed, new Section R9-3-219 adopted effective May 28, 1982 (Supp. 82-3). Former Section R9-3-219 renumbered without change as Section R18-2-219 (Supp. 87-3). Section R18-2-220 renumbered from R18-2-219 and amended effective September 26, 1990 (Supp. 90-3).

ARTICLE 3. PERMITS AND PERMIT REVISIONS

R18-2-301. Definitions

The following definitions, and the definitions contained in Article 1 of this Chapter and A.R.S. § 49-401.01 apply to this Article unless the context otherwise requires:

1. "Alternative method" means any method of sampling and analyzing for an air pollutant which is not a reference or equivalent method but which has been demonstrated to produce results adequate for the Director's determination of compliance in accordance with R18-2-311(D).
2. "Billable permit action" means the issuance or denial of a new permit, significant permit revision, or minor permit revision, or the renewal of an existing permit.
3. "Capacity factor" means the ratio of the average load on a machine or equipment for the period of time considered to the capacity rating of the machine or equipment.
4. "CEM" means a continuous emission monitoring system as defined in R18-2-101.
5. "Complete" means, in reference to an application for a permit, that the application contains all the information necessary for processing the application. Designating an application complete for purposes of permit processing does not preclude the Director from requesting or accepting any additional information.
6. "Dispersion technique" means any technique which attempts to affect the concentration of a pollutant in the ambient air by any of the following:

- a. Using that portion of a stack which exceeds good engineering practice stack height;
 - b. Varying the rate of emission of a pollutant according to atmospheric conditions or ambient concentrations of that pollutant; or
 - c. Increasing final exhaust gas plume rise by manipulating source process parameters, exhaust gas parameters, stack parameters, or combining exhaust gases from several existing stacks into 1 stack; or other selective handling of exhaust gas streams so as to increase the exhaust gas plume rise. This shall not include any of the following:
 - i. The reheating of a gas stream, following use of a pollution control system, for the purpose of returning the gas to the temperature at which it was originally discharged from the facility generating the gas stream.
 - ii. The merging of exhaust gas streams under any of the following conditions:
 - (1) The source owner or operator demonstrates that the facility was originally designed and constructed with such merged gas streams;
 - (2) After July 8, 1985, such merging is part of a change in operation at the facility that includes the installation of pollution controls and is accompanied by a net reduction in the allowable emissions of a pollutant, applying only to the emission limitation for that pollutant; or
 - (3) Before July 8, 1985, such merging was part of a change in operation at the facility that included the installation of emissions control equipment or was carried out for sound economic or engineering reasons. Where there was an increase in the emission limitation or, in the event that no emission limitation was in existence prior to the merging, an increase in the quantity of pollutants actually emitted prior to the merging, the reviewing agency shall presume that merging was significantly motivated by an intent to gain emissions credit for greater dispersion. Absent a demonstration by the source owner or operator that merging was not significantly motivated by such intent, the reviewing agency shall deny credit for the effects of such merging in calculating the allowable emissions for the source.
 - iii. Smoke management in agricultural or silvicultural prescribed burning programs.
 - iv. Episodic restrictions on residential woodburning and open burning.
 - v. Techniques which increase final exhaust gas plume rise where the resulting allowable emissions of sulfur dioxide from the facility do not exceed 5,000 tons per year.
7. "Emissions allowable under the permit" means a permit term or condition determined at issuance to be required by an applicable requirement that establishes an emissions limit (including a work practice standard) or an emissions cap that the source has assumed to avoid an applicable requirement to which the source would otherwise be subject.
8. "Fossil fuel-fired steam generator" means a furnace or boiler used in the process of burning fossil fuel for the primary purpose of producing steam by heat transfer.
 9. "Fuel oil" means Number 2 through Number 6 fuel oils as specified in ASTM D-396-90a (Specification for Fuel Oils), gas turbine fuel oils Numbers 2-GT through 4-GT as specified in ASTM D-2880-90a (Specification for Gas Turbine Fuel Oils), or diesel fuel oils Numbers 2-D and 4-D as specified in ASTM D-975-90a (Specification for Diesel Fuel Oils).
 10. "Itemized bill" means a breakdown of the permit processing time into the categories of pre-application activities, completeness review, substantive review, and public involvement activities, and within each category, a further breakdown by employee name.
 11. "Major source threshold" means the lowest applicable emissions rate for a pollutant that would cause the source to be a major source at the particular time and location, under subsection R18-2-101(64).
 12. "NAICS" means the 5 or 6-digit North American Industry Classification System-United States, 1997, number for industries used by the U.S. Department of Commerce.
 13. "Permit processing time" means all time spent by Air Quality Division staff or consultants on tasks specifically related to the processing of an application for the issuance or renewal of a particular permit or permit revision, including time spent processing an application that is denied.
 14. "Quantifiable" means, with respect to emissions, including the emissions involved in equivalent emission limits and emission trades, capable of being measured or otherwise determined in terms of quantity and assessed in terms of character. Quantification may be based on emission factors, stack tests, monitored values, operating rates and averaging times, materials used in a process or production, modeling, or other reasonable measurement practices.
 15. "Reasonably available control technology" (RACT) means, for facilities subject to an existing source performance standard, the emissions limitation of the existing source performance standard.
 16. "Replicable" means, with respect to methods or procedures, sufficiently unambiguous that the same or equivalent results would be obtained by the application of the method or procedure by different users.
 17. "Responsible official" means 1 of the following:
 - a. For a corporation: a president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation, or a duly authorized representative of such person if the representative is responsible for the overall operation of 1 or more manufacturing, production, or operating facilities applying for or subject to a permit and either:
 - i. The facilities employ more than 250 persons or have gross annual sales or expenditures exceeding \$25 million (in 2nd quarter 1980 dollars); or
 - ii. The delegation of authority to such representatives is approved in advance by the permitting authority;
 - b. For a partnership or sole proprietorship: a general partner or the proprietor, respectively;
 - c. For a municipality, state, federal, or other public agency: Either a principal executive officer or rank-

- ing elected official. For the purposes of this Article, a principal executive officer of a federal agency includes the chief executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., a Regional Administrator of EPA); or
- d. For affected sources:
- i. The designated representative in so far as actions, standards, requirements, or prohibitions under Title IV of the Act or the regulations promulgated thereunder are concerned; and
 - ii. The designated representative for any other purposes under 40 CFR 70.
18. "Small source" means a source with a potential to emit, without controls, less than the rate defined as significant in R18-2-101, but required to obtain a permit solely because it is subject to a standard under 40 CFR 63.
19. "Startup" means the setting in operation of a source for any purpose.
20. "Synthetic minor" means a source with a permit that contains voluntarily accepted emissions limitations, controls, or other requirements (for example, a cap on production rates or hours of operation, or limits on the type of fuel) under R18-2-306.01 to reduce the potential to emit to a level below the major source threshold.

Historical Note

Former Section R18-2-301 renumbered to R18-2-302, new Section R18-2-301 adopted effective September 26, 1990 (Supp. 90-3). Correction to table in subsection (A)(13) (Supp. 93-1). Section repealed, new Section adopted effective November 15, 1993 (Supp. 93-4). Amended effective August 1, 1995 (Supp. 95-3). Amended by final rulemaking at 5 A.A.R. 4074, effective September 22, 1999 (Supp. 99-3). Amended by final rulemaking at 6 A.A.R. 343, effective December 20, 1999 (Supp. 99-4). Amended by final rulemaking at 7 A.A.R. 5670, effective January 1, 2002 (Supp. 01-4).

R18-2-302. Applicability; Classes of Permits

- A. Except as otherwise provided in this Article, no person shall commence construction of, operate, or make a modification to any source subject to regulation under this Article, without obtaining a permit or permit revision from the Director.
- B. There shall be 2 classes of permits as follows:
1. A Class I permit shall be required for a person to commence construction of or operate any of the following:
 - a. Any major source,
 - b. Any solid waste incineration unit required to obtain a permit pursuant to Section 129(e) of the Act,
 - c. Any affected source, or
 - d. Any source in a source category designated by the Administrator pursuant to 40 CFR 70.3 and adopted by the Director by rule.
 2. Unless a Class I permit is required, a Class II permit shall be required for:
 - a. A person to commence construction of or operate any of the following:
 - i. Any source, including an area source, subject to a standard, limitation, or other requirement under Section 111 of the Act;
 - ii. Any source, including an area source, subject to a standard or other requirement under Section 112 of the Act, except that a source is not required to obtain a permit solely because it is

subject to regulations or requirements under Section 112 (r) of the Act;

- iii. Any source that emits or has the potential to emit, without controls, significant quantities of regulated air pollutants;
 - iv. Stationary rotating machinery of greater than 325 brake horsepower; or
 - v. Fuel-burning equipment which, at a location or property other than a 1 or 2 family residence, is fired at a sustained rate of more than 1 million Btu per hour for more than an 8-hour period.
- b. A person to modify a source which would cause it to emit, or have the potential to emit, quantities of regulated air pollutants greater than or equal to those specified in subsection (B)(2)(a)(iii).
- C. Notwithstanding subsections (A) and (B), the following sources do not require a permit unless the source is a major source, or unless operation without a permit would result in a violation of the Act:
1. Sources subject to 40 CFR 60, Subpart AAA, Standards of Performance for New Residential Wood Heaters;
 2. Sources and source categories that would be required to obtain a permit solely because they are subject to 40 CFR 61.145; and
 3. Agricultural equipment used in normal farm operations. "Agricultural equipment used in normal farm operations" does not include equipment classified as a source that requires a permit under Title V of the Act, or that is subject to a standard under 40 CFR 60 or 61.
- D. No person may construct or reconstruct any major source of hazardous air pollutants, unless the Director determines that maximum achievable control technology emission limitation (MACT) for new sources under Section 112 of the Act will be met. If MACT has not been established by the Administrator, such determination shall be made on a case-by-case basis pursuant to 40 CFR 63.40 through 63.44, as incorporated by reference in R18-2-1101(B). For purposes of this subsection, constructing and reconstructing a major source shall have the meaning prescribed in 40 CFR 63.41.

Historical Note

Amended effective August 7, 1975 (Supp. 75-1). Amended as an emergency effective December 15, 1975 (Supp. 75-2). Amended effective May 10, 1976 (Supp. 76-3). Amended effective April 12, 1977 (Supp. 77-2). Amended effective March 24, 1978 (Supp. 78-2). Former Section R9-3-301 repealed, new Section R9-3-301 adopted effective May 14, 1979 (Supp. 79-1). Amended effective October 2, 1979 (Supp. 79-5). Amended effective July 9, 1980 (Supp. 80-4). Amended effective May 28, 1982 (Supp. 82-3). Amended subsections (B) and (C) effective September 22, 1983 (Supp. 83-5). Amended subsection (B), paragraph (3) effective September 23, 1984 (Supp. 84-5). Former Section R9-3-301 renumbered without change as Section R18-2-301 (Supp. 87-3). Former Section R18-2-302 renumbered to R18-2-302.01, new Section R18-2-302 renumbered from R18-2-301 and amended effective September 26, 1990 (Supp. 90-3). Section repealed, new Section adopted effective November 15, 1993 (Supp. 93-4). Amended effective June 4, 1998 (Supp. 98-2).

R18-2-302.01. Repealed

Historical Note

Amended effective August 7, 1975 (Supp. 75-1); Former Section R9-3-302 repealed, new Section R9-3-302

adopted effective May 14, 1979 (Supp. 79-1). Former Section R9-3-302 repealed, new Section R9-3-302 adopted effective October 2, 1979 (Supp. 79-5). Former Section R9-3-302 repealed, new Section R9-3-302 adopted effective May 28, 1982 (Supp. 82-3). Former Section R9-3-302 renumbered without change as Section R18-2-302 (Supp. 87-3). Section R18-2-302.01 renumbered from Section R18-2-302 and amended effective September 26, 1990 (Supp. 90-3). Section repealed effective November 15, 1993 (Supp. 93-4).

R18-2-303. Transition from Installation and Operating Permit Program to Unitary Permit Program

- A.** An installation or operating permit issued before September 1, 1993, and the authority to operate, as provided in Laws 1992, Ch. 299, § 65, continues in effect until either of the following occurs:
1. The installation or operating permit is terminated.
 2. The Director issues or denies a Class I or Class II permit to the source.
- B.** Sources requiring Class I permits that are in existence on the date this Section becomes effective shall submit permit applications on or before the following dates:
- | | |
|---|---------|
| 1. Kraft pulp mills | 5/1/94 |
| 2. Metallic mineral processing plants | 5/1/94 |
| 3. Portland cement plants | 8/1/94 |
| 4. Non-metallic mineral processing plants | 8/1/94 |
| 5. Lumber mills | 8/1/94 |
| 6. Primary copper smelters | 11/1/94 |
| 7. Lime manufacturing plants | 11/1/94 |
| 8. Nitric acid plants | 11/1/94 |
| 9. Petroleum refineries | 11/1/94 |
| 10. Electric utility steam generating units | 2/1/95 |
| 11. Combined cycle gas turbines | 2/1/95 |
| 12. Fossil-fuel fired industrial and commercial equipment | 2/1/95 |
| 13. Stationary gas turbines | 5/1/95 |
| 14. Any other source requiring a Class I permit | 5/1/95 |
- C.** Except as provided in subsection (D), sources requiring Class II permits that are in existence on the date this Section becomes effective may submit permit applications at any time after this Section is effective and shall submit applications within 180 days of receipt of written notice from the Director that an application is required.
- D.** All sources requiring a Class II permit under R18-2-302(B)(2)(b)(i) and (ii) shall submit complete permit applications no later than May 1, 1998.
- E.** Any application for an operating permit or an installation permit that is determined to be complete prior to the effective date of this Section but for which no permit has been issued shall be considered complete for the purposes of this Section. In issuing a permit pursuant to such an application, the Director shall include in the permit all elements addressed in the application and a schedule of compliance for submitting an application for a permit revision to address the elements required to be in the permit that were not included in the operating permit or installation permit application. No later than 6 months after the effective date of this Section, the Director shall take final action on an operating permit application or an installation permit application determined to be complete prior to the effective date of this Section.
- F.** Unless otherwise provided, R18-2-317 through R18-2-323 shall apply to sources with permits issued before the effective date of this Section.

Historical Note

Amended effective August 7, 1975 (Supp. 75-1).
 Amended effective August 6, 1976 (Supp. 76-4). Former Section R9-3-303 repealed, new Section R9-3-303 adopted effective May 14, 1979 (Supp. 79-1). Former Section R9-3-303 repealed, new Section R9-3-303 adopted effective October 2, 1979 (Supp. 79-5).
 Amended effective May 28, 1982 (Supp. 82-3). Amended subsection (D), paragraph (1) effective September 28, 1984 (Supp. 84-5). Former Section R9-3-303 renumbered without change as Section R18-2-303 (Supp. 87-3).
 Amended effective September 26, 1990 (Supp. 90-3).
 Section repealed, new Section adopted effective November 15, 1993 (Supp. 93-4).

R18-2-304. Permit Application Processing Procedures

- A.** Unless otherwise noted, this Section applies to each source requiring a Class I or II permit or permit revision.
- B.** Standard Application Form and Required Information. To apply for any permit in this Chapter, applicants shall complete the "Standard Permit Application Form" and supply all information required by the "Filing Instructions" as shown in Appendix 1. The Director, either upon the Director's own initiative or on the request of a permit applicant, may waive a requirement that specific information or data be submitted in the application for a Class II permit for a particular source or category of sources if the Director determines that the information or data would be unnecessary to determine all of the following:
1. The applicable requirements to which the source may be subject;
 2. That the source is so designed, controlled, or equipped with such air pollution control equipment that it may be expected to operate without emitting or without causing to be emitted air contaminants in violation of the provisions of A.R.S. Title 49, Chapter 3, Article 2 and this Chapter;
 3. The fees to which the source may be subject;
 4. A proposed emission limitation, control, or other requirement that meets the requirements of R18-2-306.01.
- C.** Unless otherwise required by R18-2-303(B) through (D), a timely application is:
1. For a source, other than a major source, applying for a permit for the 1st time, one that is submitted within 12 months after the source becomes subject to the permit program.
 2. For purposes of permit renewal, a timely application is one that is submitted at least 6 months, but not more than 18 months, prior to the date of permit expiration.
 3. For initial phase II acid rain permits under Title IV of the Act and regulations incorporated pursuant to R18-2-333, one that is submitted to the Director by January 1, 1996, for sulfur dioxide, and by January 1, 1998, for nitrogen oxides.
 4. Any source under R18-2-326(B)(3) which becomes subject to a standard promulgated by the Administrator pursuant to Section 112(d) of the Act shall, within 12 months of the date on which the standard is promulgated, submit an application for a permit revision demonstrating how the source will comply with the standard.
- D.** If an applicable implementation plan allows the determination of an alternative emission limit, a source may, in its application, propose an emission limit that is equivalent to the emission limit otherwise applicable to the source under the applicable implementation plan. The source shall also demonstrate that the equivalent limit is quantifiable, accountable,

enforceable, and subject to replicable compliance determination procedures.

- E.** A complete application shall comply with all of the following:
1. To be complete, an application shall provide all information required by subsection (B) (standard application form section). An application for permit revision only need supply information related to the proposed change, unless the source's proposed permit revision will change the permit from a Class II permit to a Class I permit. A responsible official shall certify the submitted information consistent with subsection (H) (Certification of Truth, Accuracy, and Completeness).
 2. An application for a new permit or permit revision shall contain an assessment of the applicability of the requirements of Article 4 of this Chapter. If the applicant determines that the proposed new source is a major source as defined in R18-2-401, or the proposed permit revision constitutes a major modification as defined in R18-2-101, then the application shall comply with all applicable requirements of Article 4.
 3. An application for a new permit or a permit revision shall contain an assessment of the applicability of the requirements established pursuant to A.R.S. §§ 49-426.03 and 49-426.06. If the applicant determines that the proposed new source permit or permit revision is subject to the requirements of A.R.S. § 49-426.03 or § 49-426.06, the application shall comply with all applicable requirements promulgated under those sections.
 4. Except for proposed new major sources or major modifications subject to the requirements of Article 4 of this Chapter, an application for a new permit, a permit revision, or a permit renewal shall be deemed to be complete unless, within 60 days of receipt of the application, the Director notifies the applicant by certified mail that the application is not complete.
 5. If a source wishes to voluntarily enter into an emissions limitation, control, or other requirement pursuant to R18-2-306.01, the source shall describe that emissions limitation, control, or other requirement in its application, along with proposed associated monitoring, recordkeeping, and reporting requirements necessary to demonstrate that the emissions limitation, control, or other requirement is permanent, quantifiable, and otherwise enforceable as a practical matter.
 6. If, while processing an application that has been determined or deemed to be complete, the Director determines that additional information is necessary to evaluate or take final action on that application, the Director may request such information in writing, delivered by certified mail, and set a reasonable deadline for a response. Except for minor permit revisions as set forth in R18-2-319, a source's ability to continue operating without a permit, as set forth in this Article, shall be in effect from the date the application is determined to be complete until the final permit is issued, provided that the applicant submits any requested additional information by the deadline specified by the Director. If the Director notifies an applicant that its application is not complete under subsection (E)(4), the application may not be deemed automatically complete until an additional 60 days after receipt of the next submittal by the applicant. The Director may, after 1 submittal by the applicant pursuant to this subsection, reject an application that is determined to be still incomplete and shall notify the applicant of the decision by certified mail. After a rejection under this subsection, the Director may deny the permit or revoke an existing permit, as applicable.
 7. The completeness determination shall not apply to revisions processed through the minor permit revision process.
 8. Activities which are insignificant pursuant to R18-2-101(57) shall be listed in the application. The application need not provide emissions data regarding insignificant activities. If the Director determines that an activity listed as insignificant does not meet the requirements of R18-2-101(57), the Director shall notify the applicant in writing and specify additional information required.
 9. If a permit applicant requests terms and conditions allowing for the trading of emission increases and decreases in the permitted facility solely for the purpose of complying with a federally enforceable emission cap that is established in the permit independent of otherwise applicable requirements, the permit applicant shall include in its application proposed replicable procedures and permit terms that ensure the emissions trades are quantifiable and enforceable.
 10. The Director is not in disagreement with a notice of confidentiality submitted with the application pursuant to A.R.S. § 49-432.
- F.** A source applying for a Class I permit that has submitted information with an application under a claim of confidentiality pursuant to A.R.S. § 49-432 and R18-2-305 shall submit a copy of such information directly to the Administrator.
- G.** Duty to Supplement or Correct Application. Any applicant who fails to submit any relevant facts or who has submitted incorrect information in a permit application shall, upon becoming aware of such failure or incorrect submittal, promptly submit such supplementary facts or corrected information. In addition, an applicant shall provide additional information as necessary to address any requirements that become applicable to the source after the date it filed a complete application but prior to release of a proposed permit.
- H.** Certification of Truth, Accuracy, and Completeness. Any application form, report, or compliance certification submitted pursuant to this Chapter shall contain certification by a responsible official of truth, accuracy, and completeness. This certification and any other certification required under this Article shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.
- I.** Action on Application.
1. The Director shall issue or deny each permit according to the provisions of A.R.S. § 49-427. The Director may issue a permit with a compliance schedule for a source that is not in compliance with all applicable requirements at the time of permit issuance.
 2. In addition, a permit may be issued, revised, or renewed only if all of the following conditions have been met:
 - a. The application received by the Director for a permit, permit revision, or permit renewal shall be complete according to subsection (E).
 - b. Except for revisions qualifying as administrative or minor under R18-2-318 and R18-2-319, all of the requirements for public notice and participation under R18-2-330 shall have been met.
 - c. For Class I permits, the Director shall have complied with the requirements of R18-2-307 for notifying and responding to affected states, and if applicable, other notification requirements of R18-2-402(D)(2) and R18-2-410(C)(2).

- d. For Class I and II permits, the conditions of the permit shall require compliance with all applicable requirements.
 - e. For permits for which an application is required to be submitted to the Administrator under R18-2-307(A), and to which the Administrator has properly objected to its issuance in writing within 45 days of receipt of the proposed final permit and all necessary supporting information from the Department, the Director has revised and submitted a proposed final permit in response to the objection and EPA has not objected to this proposed final permit.
 - f. For permits to which the Administrator has objected to issuance pursuant to a petition filed under 40 CFR 70.8(d), the administrator's objection has been resolved.
 - g. For a Class II permit that contains voluntary emission limitations, controls, or other requirements established pursuant to R18-2-306.01, the Director shall have complied with the requirement of R18-2-306.01(C) to provide the Administrator with a copy of the proposed permit.
3. If the Director denies a permit under this Section, a notice shall be served on the applicant by certified mail, return receipt requested. The notice shall include a statement detailing the grounds for the denial and a statement that the permit applicant is entitled to a hearing.
 4. The Director shall provide a statement that sets forth the legal and factual basis for the proposed permit conditions including references to the applicable statutory or regulatory provisions. The Director shall send this statement to any person who requests it and, for Class I permits, to the Administrator.
 5. Except as provided in R18-2-303 and R18-2-402, regulations promulgated under Title IV or V of the Act, or the permitting of affected sources under the acid rain program pursuant to R18-2-333, the Director shall take final action on each permit application (and request for revision or renewal) within 18 months after receiving a complete application.
 6. Priority shall be given by the Director to taking action on applications for construction or modification submitted pursuant to Title I, Parts C (Prevention of Significant Deterioration) and D (New Source Review) of the Act.
 7. A proposed permit decision shall be published within 9 months of receipt of a complete application and any additional information requested pursuant to subsection (E)(6) to process the application. The Director shall provide notice of the decision as provided in R18-2-330 and any public hearing shall be scheduled as expeditiously as possible.
- J. Requirement for a Permit. Except as noted under the provisions in R18-2-317 and R18-2-319, no source may operate after the time that it is required to submit a timely and complete application, except in compliance with a permit issued pursuant to this Chapter. However, if a source under R18-2-326(B)(3) submits a timely and complete application for continued operation under a permit revision or renewal, the source's failure to have a permit is not a violation of this Article until the Director takes final action on the application. This protection shall cease to apply if, subsequent to the completeness determination, the applicant fails to submit, by the deadline specified in writing by the Director, any additional information identified as being needed to process the application.

Historical Note

Amended effective August 7, 1975 (Supp. 75-1). Former Section R9-3-304 repealed, new Section R9-3-304 formerly Section R9-3-305 renumbered and amended effective August 6, 1976 (Supp. 76-4). Former Section R9-3-304 repealed, new Section R9-3-304 adopted effective May 14, 1979 (Supp. 79-1). Amended effective October 2, 1979 (Supp. 79-5). Former Section R9-3-304 repealed, new Section R9-3-304 adopted effective May 28, 1982 (Supp. 82-3). Former Section R9-3-304 renumbered without change as Section R18-2-304 (Supp. 87-3). Amended effective September 26, 1990 (Supp. 90-3). Section repealed, new Section adopted effective November 15, 1993 (Supp. 93-4). Amended effective October 7, 1994 (Supp. 94-4). Amended effective August 1, 1995 (Supp. 95-3). The reference to subsection R18-2-101(54) in subsection (E)(8) corrected to reference subsection R18-2-101(57) (Supp. 99-3). Amended by final rulemaking at 6 A.A.R. 343, effective December 20, 1999 (Supp. 99-4).

R18-2-305. Public Records; Confidentiality

- A. The Director shall make all permits, including all elements required to be in the permit pursuant to R18-2-306, available to the public. No permit shall be issued unless the information required by R18-2-306 is present in the permit.
- B. A notice of confidentiality pursuant to A.R.S. § 49-432(C) shall:
 1. Precisely identify the information in the documents submitted which is considered confidential.
 2. Contain sufficient supporting information to allow the Director to evaluate whether such information satisfies the requirements related to trade secrets or, if applicable, how the information, if disclosed, is likely to cause substantial harm to the person's competitive position.
- C. Within 30 days of receipt of a notice of confidentiality that complies with subsection (B) above, the Director shall make a determination as to whether the information satisfies the requirements for trade secret or competitive position pursuant to A.R.S. § 49-432(C)(1) and so notify the applicant in writing. If the Director agrees with the applicant that the information covered by the notice of confidentiality satisfies the statutory requirements, the Director shall include a notice in the file for the permit or permit application that certain information has been considered confidential.
- D. If the Director takes action pursuant to A.R.S. § 49-432(D) and obtains a final order authorizing disclosure, the Director shall place the information in the public file and shall notify any person who has requested disclosure. If the court determines that the information is not subject to disclosure, the Director shall provide the notice specified in subsection (C) above.

Historical Note

Amended effective August 7, 1975 (Supp. 75-1). Amended as an emergency effective December 15, 1975 (Supp. 75-2). Amended effective May 10, 1976 (Supp. 76-3). Former Section R9-3-306 renumbered as Section R9-3-305 effective August 6, 1976. References changed to conform (Supp. 76-4). Amended effective April 12, 1977 (Supp. 77-2). Amended effective March 24, 1978 (Supp. 78-2). Former Section R9-3-305 repealed, new Section R9-3-305 adopted effective May 14, 1979 (Supp. 79-1). Amended effective October 2, 1979 (Supp. 79-5). Former Section R9-3-305 repealed, new Section R9-3-305 adopted effective May 28, 1982 (Supp. 82-3). Former Section R9-3-305 renumbered without change as

R18-2-305 (Supp. 87-3). Section repealed, new Section adopted effective November 15, 1993 (Supp. 93-4).

R18-2-306. Permit Contents

- A. Each permit issued by the Director shall include the following elements:
1. The date of issuance and the permit term.
 2. Enforceable emission limitations and standards, including operational requirements and limitations that ensure compliance with all applicable requirements at the time of issuance and operational requirements and limitations that have been voluntarily accepted under R18-2-306.01.
 - a. The permit shall specify and reference the origin of and authority for each term or condition and identify any difference in form as compared to the applicable requirement upon which the term or condition is based.
 - b. The permit shall state that, if an applicable requirement of the Act is more stringent than an applicable requirement of regulations promulgated under Title IV of the Act, both provisions shall be incorporated into the permit and shall be enforceable by the Administrator.
 - c. Any permit containing an equivalency demonstration for an alternative emission limit submitted under subsection R18-2-304(D) shall contain provisions to ensure that any resulting emissions limit has been demonstrated to be quantifiable, accountable, enforceable, and based on replicable procedures.
 - d. The permit shall specify applicable requirements for fugitive emission limitations, regardless of whether the source category in question is included in the list of sources contained in the definition of major source in R18-2-101.
 3. Each permit shall contain the following requirements with respect to monitoring:
 - a. All monitoring and analysis procedures or test methods required under applicable monitoring and testing requirements, including:
 - i. Monitoring and analysis procedures or test methods under 40 CFR 64;
 - ii. Other procedures and methods promulgated under sections 114(a)(3) or 504(b) of the Act; and
 - iii. Monitoring and analysis procedures or test methods required under R18-2-306.01.
 - b. 40 CFR 64 as adopted July 1, 1998, is incorporated by reference and on file with the Department and the Office of the Secretary of State. This incorporation by reference contains no future editions or amendments. If more than 1 monitoring or testing requirement applies, the permit may specify a streamlined set of monitoring or testing provisions if the specified monitoring or testing is adequate to assure compliance at least to the same extent as the monitoring or testing applicable requirements not included in the permit as a result of such streamlining;
 - c. If the applicable requirement does not require periodic testing or instrumental or noninstrumental monitoring (which may consist of recordkeeping designed to serve as monitoring), periodic monitoring sufficient to yield reliable data from the relevant time period that are representative of the source's compliance with the permit as reported under subsection (A)(4). The monitoring requirements shall ensure use of terms, test methods, units, averaging periods, and other statistical conventions consistent with the applicable requirement, and as otherwise required under R18-2-306.01. Recordkeeping provisions may be sufficient to meet the requirements of this subsection; and
 - d. As necessary, requirements concerning the use, maintenance, and, if appropriate, installation of monitoring equipment or methods.
 4. The permit shall incorporate all applicable recordkeeping requirements including recordkeeping requirements established under R18-2-306.01, for the following:
 - a. Records of required monitoring information that include the following:
 - i. The date, place as defined in the permit, and time of sampling or measurement;
 - ii. The date any analyses was performed;
 - iii. The name of the company or entity that performed the analysis;
 - iv. A description of the analytical technique or method used;
 - v. The results of any analysis; and
 - vi. The operating conditions existing at the time of sampling or measurement;
 - b. Retention of records of all required monitoring data and support information for a period of at least 5 years from the date of the monitoring sample, measurement, report, or application. Support information includes all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation and copies of all reports required by the permit.
 5. The permit shall incorporate all applicable reporting requirements including reporting requirements established under R18-2-306.01 and require the following:
 - a. Submittal of reports of any required monitoring at least every 6 months. All instances of deviations from permit requirements shall be clearly identified in the reports. All required reports shall be certified by a responsible official consistent with subsections R18-2-304(H) and R18-2-309(A)(5).
 - b. Prompt reporting of deviations from permit requirements, including those attributable to upset conditions as defined in the permit, the probable cause of the deviations, and any corrective actions or preventive measures taken. Notice that complies with subsection (E)(3)(d) shall be considered prompt for the purposes of this subsection (A)(5)(b).
 6. A permit condition prohibiting emissions exceeding any allowances the source lawfully holds under Title IV of the Act or the regulations promulgated thereunder.
 - a. A permit revision is not required for increases in emissions that are authorized by allowances acquired under the acid rain program, if the increases do not require a permit revision under any other applicable requirement.
 - b. A limit shall not be placed on the number of allowances held by the source. The source shall not, however, use allowances as a defense to noncompliance with any other applicable requirement.
 - c. Any allowance shall be accounted for according to the procedures established in regulations promulgated under Title IV of the Act.
 - d. Any permit issued under the requirements of this Chapter and Title V of the Act to a unit subject to the provisions of Title IV of the Act shall include conditions prohibiting all of the following:

- i. Annual emissions of sulfur dioxide in excess of the number of allowances to emit sulfur dioxide held by the owner or operator of the unit or the designated representative of the owner or operator,
 - ii. Exceedances of applicable emission rates,
 - iii. Use of any allowance before the year for which it is allocated, and
 - iv. Contravention of any other provision of the permit.
7. A severability clause to ensure the continued validity of the various permit requirements in the event of a challenge to any portion of the permit.
8. Provisions stating the following:
 - a. The permittee shall comply with all conditions of the permit including all applicable requirements of Arizona air quality statutes A.R.S. Title 49, Chapter 3, and the air quality rules, 18 A.A.C. 2. Any permit noncompliance is grounds for enforcement action; for a permit termination, revocation and reissuance, or revision; or for denial of a permit renewal application. Noncompliance with any federally enforceable requirement in a permit is a violation of the Act.
 - b. It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of the permit.
 - c. The permit may be revised, reopened, revoked and reissued, or terminated for cause. The filing of a request by the permittee for a permit revision, revocation and reissuance, or termination, or of a notification of planned changes or anticipated noncompliance does not stay any permit condition.
 - d. The permit does not convey any property rights of any sort, or any exclusive privilege to the permit holder.
 - e. The permittee shall furnish to the Director, within a reasonable time, any information that the Director may request in writing to determine whether cause exists for revising, revoking and reissuing, or terminating the permit, or to determine compliance with the permit. Upon the Director's request, the permittee shall also furnish to the Director copies of records required to be kept by the permit. For information claimed to be confidential, the permittee shall furnish a copy of the records directly to the Administrator along with a claim of confidentiality.
 - f. For any major source operating in a nonattainment area for all pollutants for which the source is classified as a major source, the source shall comply with reasonably available control technology.
9. A provision to ensure that the source pays fees to the Director under A.R.S. § 49-426(E), R18-2-326, and R18-2-511.
10. A provision stating that a permit revision shall not be required under any approved economic incentives, marketable permits, emissions trading, and other similar programs or processes for changes provided for in the permit.
11. Terms and conditions for reasonably anticipated operating scenarios identified by the source in its application as approved by the Director. The terms and conditions shall:
 - a. Require the source, contemporaneously with making a change from 1 operating scenario to another, to record in a log at the permitted facility a record of the scenario under which it is operating;
- b. Extend the permit shield described in R18-2-325 to all terms and conditions under each such operating scenario; and
 - c. Ensure that the terms and conditions of each such alternative scenario meet all applicable requirements and the requirements of this Chapter.
12. Terms and conditions, if the permit applicant requests them, and as approved by the Director, for the trading of emissions increases and decreases in the permitted facility, to the extent that the applicable requirements provide for trading the increases and decreases without a case-by-case approval of each emissions trade. The terms and conditions:
 - a. Shall include all terms required under subsections (A) and (C) to determine compliance;
 - b. Shall not extend the permit shield in subsection (D) to all terms and conditions that allow the increases and decreases in emissions;
 - c. Shall not include trading that involves emission units for which emissions are not quantifiable or for which there are no replicable procedures to enforce the emissions trades; and
 - d. Shall meet all applicable requirements and requirements of this Chapter.
13. Terms and conditions, if the permit applicant requests them and they are approved by the Director, setting forth intermittent operating scenarios including potential periods of downtime. If the terms and conditions are included, the state's emissions inventory shall not reflect the zero emissions associated with the periods of downtime.
14. Upon request of a permit applicant, the Director shall issue a permit that contains terms and conditions allowing for the trading of emission increases and decreases in the permitted facility solely for the purpose of complying with a federally enforceable emission cap established in the permit independent of otherwise applicable requirements. The permit applicant shall include in its application proposed replicable procedures and permit terms that ensure the emissions trades are quantifiable and enforceable. The Director shall not include in the emissions trading provisions any emissions units for which emissions are not quantifiable or for which there are no replicable procedures to enforce the emissions trades. The permit shall also require compliance with all applicable requirements. Changes made under this subsection shall not include modifications under any provision of Title I of the Act and shall not exceed emissions allowable under the permit. The terms and conditions shall provide, for Class I sources, for notice that conforms to subsections R18-2-317(D) and (E), and for Class II sources, for logging that conforms to subsection R18-2-317.02(B)(5). In addition, the notices for Class I and Class II sources shall describe how the increases and decreases in emissions will comply with the terms and conditions of the permit.
15. Other terms and conditions as are required by the Act, A.R.S. Title 49, Chapter 3, Articles 1 and 2, and the rules adopted in 18 A.A.C. 2.
 - B. Federally-enforceable Requirements.
 1. The following permit conditions shall be enforceable by the Administrator and citizens under the Act:
 - a. Except as provided in subsection (B)(2), all terms and conditions in a Class I permit, including any

- provision designed to limit a source's potential to emit;
- b. Terms or conditions in a Class II permit setting forth federal applicable requirements; and
 - c. Terms and conditions in any permit entered into voluntarily under R18-2-306.01, as follows:
 - i. Emissions limitations, controls, or other requirements; and
 - ii. Monitoring, recordkeeping, and reporting requirements associated with the emissions limitations, controls, or other requirements in subsection (B)(1)(c)(i).
2. Notwithstanding subsection (B)(1)(a), the Director shall specifically designate as not being federally enforceable under the Act any terms and conditions included in a Class I permit that are not required under the Act or under any of its applicable requirements.
- C. Each permit shall contain a compliance plan as specified in R18-2-309.
- D. Each permit shall include the applicable permit shield provisions under R18-2-325.
- E. Emergency provision.
1. An "emergency" means any situation arising from sudden and reasonably unforeseeable events beyond the control of the source, including acts of God, that requires immediate corrective action to restore normal operation and that causes the source to exceed a technology-based emission limitation under the permit, due to unavoidable increases in emissions attributable to the emergency. An emergency shall not include noncompliance to the extent caused by improperly designed equipment, lack of preventative maintenance, careless or improper operation, or operator error.
 2. An emergency constitutes an affirmative defense to an action brought for noncompliance with technology-based emission limitations if the conditions of subsection (E)(3) are met.
 3. The affirmative defense of emergency shall be demonstrated through properly signed, contemporaneous operating logs, or other relevant evidence that:
 - a. An emergency occurred and the permittee can identify the cause or causes of the emergency;
 - b. At the time of the emergency the permitted facility was being properly operated;
 - c. During the period of the emergency, the permittee took all reasonable steps to minimize levels of emissions that exceeded the emissions standards or other requirements in the permit; and
 - d. The permittee submitted notice of the emergency to the Director by certified mail, facsimile, or hand delivery within 2 working days of the time when emission limitations were exceeded due to the emergency. This notice shall contain a description of the emergency, any steps taken to mitigate emissions, and corrective action taken.
 4. In any enforcement proceeding, the permittee seeking to establish the occurrence of an emergency has the burden of proof.
 5. This provision is in addition to any emergency or upset provision contained in any applicable requirement.
- F. A Class I permit issued to a major source shall require that revisions be made under R18-2-321 to incorporate additional applicable requirements adopted by the Administrator under the Act that become applicable to a source with a permit with a remaining permit term of 3 or more years. A revision shall not be required if the effective date of the applicable requirement

is after the expiration of the permit. The revisions shall be made as expeditiously as practicable; but not later than 18 months after the promulgation of the standards and regulations. Any permit revision required under this subsection shall comply with R18-2-322 for permit renewal and shall reset the 5-year permit term.

Historical Note

Adopted effective August 7, 1975 (Supp. 75-1). Former Section R9-3-307 renumbered as Section R9-3-306 effective August 6, 1976. Reference changed to conform (Supp. 76-4). Former Section R9-3-306 repealed, new Section R9-3-306 adopted effective May 14, 1979 (Supp. 79-1). Amended effective October 2, 1979 (Supp. 79-5). Amended effective July 9, 1980 (Supp. 80-4). Amended subsection (A) effective May 28, 1982 (Supp. 82-3). Amended subsection (A) effective September 28, 1984 (Supp. 84-5). Former Section R9-3-306 renumbered without change as R18-2-306 (Supp. 87-3). Amended subsection (I) effective December 1, 1988 (Supp. 88-4). Amended effective September 26, 1990 (Supp. 90-3). Section repealed, new Section adopted effective November 15, 1993 (Supp. 93-4). Amended effective August 1, 1995 (Supp. 95-3). Amended effective June 4, 1998 (Supp. 98-2). Amended by final rulemaking at 5 A.A.R. 4074, effective September 22, 1999 (Supp. 99-3). Amended by final rulemaking at 6 A.A.R. 343, effective December 20, 1999 (Supp. 99-4).

R18-2-306.01. Permits Containing Voluntarily Accepted Emission Limitations and Standards

- A. A source may voluntarily propose in its application, and accept in its permit, emissions limitations, controls, or other requirements that are permanent, quantifiable, and otherwise enforceable as a practical matter in order to avoid classification as a source that requires a Class I permit or to avoid 1 or more other federal applicable requirements. For the purposes of this Section, "enforceable as a practical matter" means that specific means to assess compliance with an emissions limitation, control, or other requirement are provided for in the permit in a manner that allows compliance to be readily determined by an inspection of records and reports.
- B. In order for a source to obtain a permit containing voluntarily accepted emissions limitations, controls, or other requirements, the source shall demonstrate all of the following in its permit application:
1. The emissions limitations, controls, or other requirements to be imposed for the purpose of avoiding an applicable requirement are at least as stringent as the emissions limitations, controls, or other requirements that would otherwise be applicable to that source, including those that originate in an applicable implementation plan; and the permit does not waive, or make less stringent, any limitations or requirements contained in or issued pursuant to an applicable implementation plan, or that are otherwise federally enforceable.
 2. All voluntarily accepted emissions limitations, controls, or other requirements will be permanent, quantifiable, and otherwise enforceable as a practical matter.
- C. At the same time as notice of proposed issuance is first published pursuant to A.R.S. § 49-426(D), the Director shall send a copy of any Class II permit proposed to be issued pursuant to this Section to the Administrator for review during the comment period described in the notice pursuant to R18-2-330(D).
- D. The Director shall send a copy of each final permit issued pursuant to this Section to the Administrator.

Historical Note

Adopted effective August 1, 1995 (Supp. 95-3).

R18-2-306.02. Establishment of an Emissions Cap

- A.** An applicant may, in its application for a new permit, renewal of an existing permit, or as a significant permit revision, request an emissions cap for a particular pollutant expressed in tons per year as determined on a 12-month rolling average, or any shorter averaging time necessary to enforce any applicable requirement, for any emissions unit, combination of emissions units, or an entire source to allow operating flexibility including emissions trading for the purpose of complying with the cap. This Section shall not apply to sources that hold an authority to operate under a general permit pursuant to Article 5 of this Chapter.
- B.** An emissions cap for a Class II source that limits the emissions of a particular pollutant for the entire source shall not exceed any of the following:
1. The applicable requirement for the pollutant if expressed in tons per year;
 2. The source's actual emissions plus the applicable significance level for the pollutant established in R18-2-101(104);
 3. The applicable major source threshold for the pollutant; or
 4. A sourcewide emission limitation for the pollutant voluntarily agreed to by the source under R18-2-306.01.
- C.** In order to incorporate an emissions cap in a permit the applicant must demonstrate to the Director that terms and conditions in the permit will:
1. Ensure compliance with all applicable requirements for the pollutant;
 2. Contain replicable procedures to ensure that the emissions cap is enforceable as a practical matter and emissions trading conducted under it is quantifiable and enforceable as a practical matter. For the purposes of this Section, "enforceable as a practical matter" shall include the following criteria:
 - a. The permit conditions are permanent and quantifiable;
 - b. The permit includes a legally enforceable obligation to comply;
 - c. The limits impose an objective and quantifiable operational or production limit or require the use of in-place air pollution control equipment;
 - d. The permit limits have short-term averaging times consistent with the averaging times of the applicable requirement;
 - e. The permit conditions are enforceable and are independent of any other applicable limitations; and
 - f. The permit conditions for monitoring, recordkeeping, and reporting requirements are sufficient to comply with R18-2-306(A)(3),(4), and (5).
 3. For a Class I permit, include all terms required under R18-2-306(A) and R18-2-309.
- D.** Class I sources shall log an increase or decrease in actual emissions authorized as a trade under an emissions cap unless an applicable requirement requires notice to the Director. The log shall contain the information required by the permit including, at a minimum, when the proposed emissions increase or decrease occurred, a description of the physical change or change in method of operation that produced the increase or decrease, the change in emissions from the physical change or change in method of operation, and how the increase or decrease in emissions complies with the permit. Class II sources shall comply with R18-2-317.02(B)(5).

- E.** The Director shall not include in an emissions cap or emissions trading allowed under a cap any emissions unit for which the emissions are not quantifiable or for which there are no replicable procedures or practical means to enforce emissions trades.

Historical Note

New Section adopted by final rulemaking at 5 A.A.R. 4074, effective September 22, 1999 (Supp. 99-3).

R18-2-307. Permit Review by the EPA and Affected States

- A.** Except as provided in R18-2-304(F) and as waived by the Administrator, for each Class I permit, a copy of each of the following shall be provided to the Administrator as follows:
1. The applicant shall provide a complete copy of the application including any attachments, compliance plans, and other information required by R18-2-304(E) at the time of submittal of the application to the Director.
 2. The Director shall provide the proposed final permit after public and affected state review.
 3. The Director shall provide the final permit at the time of issuance.
- B.** The Director shall keep all records associated with all permits for a minimum of 5 years from issuance.
- C.** No permit for which an application is required to be submitted to the Administrator under subsection (A) shall be issued if the Administrator properly objects to its issuance in writing within 45 days of receipt of the proposed final permit from the Department and all necessary supporting information.
- D.** Review by Affected States.
1. For each Class I permit, the Director shall provide notice of each proposed permit to any affected state on or before the time that the Director provides this notice to the public as required under R18-2-330 except to the extent R18-2-319 requires the timing of the notice to be different.
 2. If the Director refuses to accept a recommendation of any affected state submitted during the public or affected state review period, the Director shall notify the Administrator and the affected state in writing. The notification shall include the Director's reasons for not accepting any such recommendation and shall be provided to the Administrator as part of the submittal of the proposed final permit. The Director shall not be required to accept recommendations that are not based on federal applicable requirements or requirements of state law.
- E.** Any person who petitions the Administrator pursuant to 40 CFR 70.8(d) shall notify the Department by certified mail of such petition as soon as possible, but in no case more than 10 days following such petition. Such notice shall include the grounds for objection and whether such objections were raised during the public comment period. If the Administrator objects to the permit as a result of a petition filed under this subsection, the Director shall not issue the permit until EPA's objection has been resolved, except that a petition for review does not stay the effectiveness of a permit or its requirements if the permit was issued after the end of the 45-day administrative review period and prior to the Administrator's objection.
- F.** If the Director has issued a permit prior to receipt of the Administrator's objection under subsection (E), and the Administrator indicates that it should be revised, terminated, or revoked and reissued, the Director shall reopen the permit in accordance with R18-2-321 and may thereafter issue only a revised permit that satisfies the Administrator's objection. In any case, the source shall not be in violation of the requirement to have submitted a timely and complete application.
- G.** Prohibition on Default Issuance.

1. No Class I permit including a permit renewal or revision shall be issued until affected states and the Administrator have had an opportunity to review the proposed permit.
2. No permit or renewal shall be issued unless the Director has acted on the application.

Historical Note

Adopted effective August 7, 1975 (Supp. 75-1). Former Section R9-3-307 renumbered as Section R9-3-306 effective August 6, 1976 (Supp. 76-4). New Section R9-3-307 adopted effective May 14, 1979 (Supp. 79-1). Amended effective October 2, 1979 (Supp. 79-5). Former Section R9-3-307 repealed, new Section R9-3-307 adopted effective May 28, 1982 (Supp. 82-3). Amended subsection (B)(4)(b) effective September 22, 1983 (Supp. 83-5). Former Section R9-3-307 renumbered without change as R18-2-307 (Supp. 87-3). Section repealed, new Section adopted effective November 15, 1993 (Supp. 93-4).

R18-2-308. Emission Standards and Limitations

Wherever applicable requirements apply different standards or limitations to a source for the same item, all applicable requirements shall be included in the permit.

Historical Note

Adopted effective August 7, 1975 (Supp. 75-1). Former Section R9-3-308 repealed, new Section R9-3-308 adopted effective May 14, 1979 (Supp. 79-1). Former Section R9-3-308 renumbered without change as R18-2-308 (Supp. 87-3). Amended effective December 1, 1988 (Supp. 88-4). Section repealed, new Section adopted effective November 15, 1993 (Supp. 93-4).

R18-2-309. Compliance Plan; Certification

All permits shall contain the following elements with respect to compliance:

1. The elements required by R18-2-306(A)(3), (4), and (5).
2. Requirements for compliance certification with terms and conditions contained in the permit, including emission limitations, standards, or work practices. Permits shall include each of the following:
 - a. The frequency for submissions of compliance certifications, which shall not be less than annually;
 - b. The means to monitor the compliance of the source with its emissions limitations, standards, and work practices;
 - c. A requirement that the compliance certification include all of the following (the identification of applicable information may cross-reference the permit or previous reports, as applicable):
 - i. The identification of each term or condition of the permit that is the basis of the certification;
 - ii. The identification of the methods or other means used by the owner or operator for determining the compliance status with each term and condition during the certification period, and whether the methods or other means provide continuous or intermittent data. The methods and other means shall include, at a minimum, the methods and means required under R18-2-306(A)(3). If necessary, the owner or operator also shall identify any other material information that must be included in the certification to comply with section 113(c)(2) of the Act, which prohibits knowingly making a false certification or omitting material information;
- iii. The status of compliance with the terms and conditions of the permit for the period covered by the certification, based on the methods or means designated in subsection (2)(c)(ii). The certification shall identify each deviation and take it into account for consideration in the compliance certification. For emission units subject to 40 CFR 64, the certification shall also identify as possible exceptions to compliance any period during which compliance is required and in which an excursion or exceedance defined under 40 CFR 64 occurred; and
- iv. Other facts the Director may require to determine the compliance status of the source.
- d. A requirement that all compliance certifications be submitted to the Director. Class I permit compliance certifications shall also be submitted to the Administrator.
- e. Additional requirements specified in sections 114(a)(3) and 504(b) of the Act or pursuant to R18-2-306.01.
3. A requirement for any document required to be submitted by a permit, including reports, to contain a certification by a responsible official of truth, accuracy, and completeness. This certification and any other certification required under this part shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.
4. Inspection and entry provisions which require that upon presentation of proper credentials, the permittee shall allow the Director to:
 - a. Enter upon the permittee's premises where a source is located or emissions-related activity is conducted, or where records are required to be kept under the conditions of the permit;
 - b. Have access to and copy, at reasonable times, any records that are required to be kept under the conditions of the permit;
 - c. Inspect, at reasonable times, any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under the permit;
 - d. Sample or monitor, at reasonable times, substances or parameters for the purpose of assuring compliance with the permit or other applicable requirements; and
 - e. Record any inspection by use of written, electronic, magnetic, and photographic media.
5. A compliance plan that contains all the following:
 - a. A description of the compliance status of the source with respect to all applicable requirements.
 - b. A description as follows:
 - i. For applicable requirements with which the source is in compliance, a statement that the source will continue to comply with such requirements.
 - ii. For applicable requirements that will become effective during the permit term, a statement that the source will meet such requirements on a timely basis.
 - iii. For requirements for which the source is not in compliance at the time of permit issuance, a narrative description of how the source will achieve compliance with such requirements.
 - c. A compliance schedule as follows:

- i. For applicable requirements with which the source is in compliance, a statement that the source will continue to comply with such requirements.
 - ii. For applicable requirements that will become effective during the permit term, a statement that the source will meet such requirements on a timely basis. A statement that the source will meet in a timely manner applicable requirements that become effective during the permit term shall satisfy this provision, unless a more detailed schedule is expressly required by the applicable requirement.
 - iii. A schedule of compliance for sources that are not in compliance with all applicable requirements at the time of permit issuance. Such a schedule shall include a schedule of remedial measures, including an enforceable sequence of actions with milestones, leading to compliance with any applicable requirement for which the source will be in noncompliance at the time of permit issuance. This compliance schedule shall resemble and be at least as stringent as that contained in any judicial consent decree or administrative order to which the source is subject. Any such schedule of compliance shall be supplemental to, and shall not sanction non-compliance with, the applicable requirements on which it is based.
 - d. A schedule for submission of certified progress reports no less frequently than every 6 months for sources required to have a schedule of compliance to remedy a violation. Such schedule shall contain:
 - i. Dates for achieving the activities, milestones, or compliance required in the schedule of compliance, and dates when such activities, milestones, or compliance were achieved; and
 - ii. An explanation of why any dates in the schedule of compliance were not or will not be met, and any preventive or corrective measures adopted.
 - e. The compliance plan content requirements specified in this subsection shall apply and be included in the acid rain portion of a compliance plan for an affected source, except as specifically superseded by regulations promulgated under Title IV of the Act and incorporated pursuant to R18-2-333 with regard to the schedule and method(s) the source will use to achieve compliance with the acid rain emissions limitations.
6. If there is a Federal Implementation Plan (FIP) applicable to the source, a provision that compliance with the FIP is required.

Historical Note

Adopted effective May 14, 1979 (Supp. 79-1). Amendment filed September 18, 1979, effective following the adoption of Article 7. Nonferrous Smelter Orders. Amended effective October 2, 1979 (Supp. 79-5). Article 7. Nonferrous Smelter Orders adopted effective January 8, 1980. Amendment filed September 18, 1979 effective January 8, 1980 (Supp. 80-2). Amended effective September 28, 1984 (Supp. 84-5). Former Section R9-3-309 renumbered without change as R18-2-309 (Supp. 87-3). Section repealed, new Section adopted effective November 15, 1993 (Supp. 93-4). Amended effective October 7, 1994 (Supp. 94-4). Amended effective August 1, 1995

(Supp. 95-3). Amended by final rulemaking at 6 A.A.R. 343, effective December 20, 1999 (Supp. 99-4).

R18-2-310. Affirmative Defenses for Excess Emissions Due to Malfunctions, Startup, and Shutdown

A. Applicability

This rule establishes affirmative defenses for certain emissions in excess of an emission standard or limitation and applies to all emission standards or limitations except for standards or limitations:

1. Promulgated pursuant to Sections 111 or 112 of the Act,
2. Promulgated pursuant to Titles IV or VI of the Clean Air Act,
3. Contained in any Prevention of Significant Deterioration (PSD) or New Source Review (NSR) permit issued by the U.S. E.P.A.,
4. Contained in R18-2-715(F), or
5. Included in a permit to meet the requirements of R18-2-406(A)(5).

B. Affirmative Defense for Malfunctions

Emissions in excess of an applicable emission limitation due to malfunction shall constitute a violation. The owner or operator of a source with emissions in excess of an applicable emission limitation due to malfunction has an affirmative defense to a civil or administrative enforcement proceeding based on that violation, other than a judicial action seeking injunctive relief, if the owner or operator of the source has complied with the reporting requirements of R18-2-310.01 and has demonstrated all of the following:

1. The excess emissions resulted from a sudden and unavoidable breakdown of process equipment or air pollution control equipment beyond the reasonable control of the operator;
2. The air pollution control equipment, process equipment, or processes were at all times maintained and operated in a manner consistent with good practice for minimizing emissions;
3. If repairs were required, the repairs were made in an expeditious fashion when the applicable emission limitations were being exceeded. Off-shift labor and overtime were utilized where practicable to ensure that the repairs were made as expeditiously as possible. If off-shift labor and overtime were not utilized, the owner or operator satisfactorily demonstrated that the measures were impracticable;
4. The amount and duration of the excess emissions (including any bypass operation) were minimized to the maximum extent practicable during periods of such emissions;
5. All reasonable steps were taken to minimize the impact of the excess emissions on ambient air quality;
6. The excess emissions were not part of a recurring pattern indicative of inadequate design, operation, or maintenance;
7. During the period of excess emissions there were no exceedances of the relevant ambient air quality standards established in Article 2 of this Chapter that could be attributed to the emitting source;
8. The excess emissions did not stem from any activity or event that could have been foreseen and avoided, or planned, and could not have been avoided by better operations and maintenance practices;
9. All emissions monitoring systems were kept in operation if at all practicable; and
10. The owner or operator's actions in response to the excess emissions were documented by contemporaneous records.

C. Affirmative Defense for Startup and Shutdown

1. Except as provided in subsection (C)(2), and unless otherwise provided for in the applicable requirement, emissions in excess of an applicable emission limitation due to startup and shutdown shall constitute a violation. The owner or operator of a source with emissions in excess of an applicable emission limitation due to startup and shutdown has an affirmative defense to a civil or administrative enforcement proceeding based on that violation, other than a judicial action seeking injunctive relief, if the owner or operator of the source has complied with the reporting requirements of R18-2-310.01 and has demonstrated all of the following:
 - a. The excess emissions could not have been prevented through careful and prudent planning and design;
 - b. If the excess emissions were the result of a bypass of control equipment, the bypass was unavoidable to prevent loss of life, personal injury, or severe damage to air pollution control equipment, production equipment, or other property;
 - c. The source's air pollution control equipment, process equipment, or processes were at all times maintained and operated in a manner consistent with good practice for minimizing emissions;
 - d. The amount and duration of the excess emissions (including any bypass operation) were minimized to the maximum extent practicable during periods of such emissions;
 - e. All reasonable steps were taken to minimize the impact of the excess emissions on ambient air quality;
 - f. During the period of excess emissions there were no exceedances of the relevant ambient air quality standards established in Article 2 of this Chapter that could be attributed to the emitting source;
 - g. All emissions monitoring systems were kept in operation if at all practicable; and
 - h. The owner or operator's actions in response to the excess emissions were documented by contemporaneous records.
2. If excess emissions occur due to a malfunction during routine startup and shutdown, then those instances shall be treated as other malfunctions subject to subsection (B).

D. Affirmative Defense for Malfunctions During Scheduled Maintenance

If excess emissions occur due to a malfunction during scheduled maintenance, then those instances will be treated as other malfunctions subject to subsection (B).

E. Demonstration of Reasonable and Practicable Measures

For an affirmative defense under subsection (B) or (C), the owner or operator of the source shall demonstrate, through submission of the data and information required by this Section and R18-2-310.01, that all reasonable and practicable measures within the owner or operator's control were implemented to prevent the occurrence of the excess emissions.

Historical Note

Adopted effective May 14, 1979 (Supp. 79-1). Amended effective June 19, 1981 (Supp. 81-3). Amended Arizona Testing Manual for Air Pollutant Emissions, effective September 22, 1983 (Supp. 83-5). Amended Arizona Testing Manual for Air Pollutant Emissions, as of September 15, 1984, effective August 9, 1985 (Supp. 85-4). Amended effective September 28, 1984 (Supp. 84-5). Former Section R9-3-310 renumbered without change as R18-2-310 (Supp. 87-3). Amended effective February 26, 1988 (Supp. 88-1). Amended effective September 26, 1990 (Supp. 90-3). Section repealed, new Section

adopted effective November 15, 1993 (Supp. 93-4). Section repealed; new Section adopted by final rulemaking at 7 A.A.R. 1164, effective February 15, 2001 (Supp. 01-1).

R18-2-310.01. Reporting Requirements

- A.** The owner or operator of any source shall report to the Director any emissions in excess of the limits established by this Chapter or the applicable permit. The report shall be in two parts as specified below:
1. Notification by telephone or facsimile within 24 hours of the time the owner or operator first learned of the occurrence of excess emissions that includes all available information from subsection (B).
 2. Detailed written notification by submission of an excess emissions report within 72 hours of the notification under subsection (1).
- B.** The excess emissions report shall contain the following information:
1. The identity of each stack or other emission point where the excess emissions occurred;
 2. The magnitude of the excess emissions expressed in the units of the applicable emission limitation and the operating data and calculations used in determining the magnitude of the excess emissions;
 3. The time and duration or expected duration of the excess emissions;
 4. The identity of the equipment from which the excess emissions emanated;
 5. The nature and cause of the emissions;
 6. The steps taken, if the excess emissions were the result of a malfunction, to remedy the malfunction and the steps taken or planned to prevent the recurrence of the malfunctions;
 7. The steps that were or are being taken to limit the excess emissions; and
 8. If the source's permit contains procedures governing source operation during periods of startup or malfunction and the excess emissions resulted from startup or malfunction, a list of the steps taken to comply with the permit procedures.
- C.** In the case of continuous or recurring excess emissions, the notification requirements of this Section shall be satisfied if the source provides the required notification after excess emissions are first detected and includes in the notification an estimate of the time the excess emissions will continue. Excess emissions occurring after the estimated time period or changes in the nature of the emissions as originally reported shall require additional notification pursuant to subsections (A) and (B).

Historical Note

New Section adopted by final rulemaking at 7 A.A.R. 1164, effective February 15, 2001 (Supp. 01-1).

R18-2-311. Test Methods and Procedures

- A.** Except as otherwise specified in this Chapter, the applicable procedures and testing methods contained in the Arizona Testing Manual; 40 CFR 52, Appendices D and E; 40 CFR 60, Appendices A through F; and 40 CFR 61, Appendices B and C shall be used to determine compliance with the requirements established in this Chapter or contained in permits issued pursuant to this Chapter.
- B.** Except as otherwise provided in this subsection the opacity of visible emissions shall be determined by Reference Method 9 of the Arizona Testing Manual. A permit may specify a method, other than Method 9, for determining the opacity of emissions from a particular emissions unit, if the method has

- been promulgated by the Administrator in 40 CFR 60, Appendix A.
- C. Except as otherwise specified in this Chapter, the heat content of solid fuel shall be determined according to ASTM method D-3176-89, (Practice for Ultimate Analysis of Coal and Coke) and ASTM method D-2015-91, (Test Method for Gross Calorific Value of Coal and Coke by the Adiabatic Bomb Calorimeter).
- D. Except for ambient air monitoring and emissions testing required under Articles 9 and 11 of this Chapter, alternative and equivalent test methods in any test plan submitted to the Director may be approved by the Director for the duration of that plan provided that the following 3 criteria are met:
1. The alternative or equivalent test method measures the same chemical and physical characteristics as the test method it is intended to replace.
 2. The alternative or equivalent test method has substantially the same or better reliability, accuracy, and precision as the test method it is intended to replace.
 3. Applicable quality assurance procedures are followed in accordance with the Arizona Testing Manual, 40 CFR 60 or other quality assurance methods which are consistent with principles contained in the Arizona Testing Manual or 40 CFR 60 as approved by the Director.

Historical Note

Adopted effective May 14, 1979 (Supp. 79-1). Amended effective July 9, 1980 (Supp. 80-4). Amended effective September 28, 1984 (Supp. 84-5). Former Section R9-3-311 renumbered without change as R18-2-311 (Supp. 87-3). Section repealed, new Section adopted effective November 15, 1993 (Supp. 93-4).

R18-2-312. Performance Tests

- A. Within 60 days after a source subject to the permit requirements of this Article has achieved the capability to operate at its maximum production rate on a sustained basis but no later than 180 days after initial start-up of such source and at such other times as may be required by the Director, the owner or operator of such source shall conduct performance tests and furnish the Director a written report of the results of the tests.
- B. Performance tests shall be conducted and data reduced in accordance with the test method and procedures contained in the Arizona Testing Manual unless the Director:
1. Specifies or approves, in specific cases, the use of a reference method with minor changes in methodology;
 2. Approves the use of an equivalent method;
 3. Approves the use of an alternative method the results of which he has determined to be adequate for indicating whether a specific source is in compliance; or
 4. Waives the requirement for performance tests because the owner or operator of a source has demonstrated by other means to the Director's satisfaction that the source is in compliance with the standard.
 5. Nothing in this Section shall be construed to abrogate the Director's authority to require testing.
- C. Performance tests shall be conducted under such conditions as the Director shall specify to the plant operator based on representative performance of the source. The owner or operator shall make available to the Director such records as may be necessary to determine the conditions of the performance tests. Operations during periods of start-up, shutdown, and malfunction shall not constitute representative conditions of performance tests unless otherwise specified in the applicable standard.
- D. The owner or operator of a permitted source shall provide the Director 2 weeks prior notice of the performance test to afford the Director the opportunity to have an observer present.
- E. The owner or operator of a permitted source shall provide, or cause to be provided, performance testing facilities as follows:
1. Sampling ports adequate for test methods applicable to such facility.
 2. Safe sampling platform(s).
 3. Safe access to sampling platform(s).
 4. Utilities for sampling and testing equipment.
- F. Each performance test shall consist of 3 separate runs using the applicable test method. Each run shall be conducted for the time and under the conditions specified in the applicable standard. For the purpose of determining compliance with an applicable standard, the arithmetic means of results of the 3 runs shall apply. In the event that a sample is accidentally lost or conditions occur in which 1 of the 3 runs is required to be discontinued because of forced shutdown, failure of an irreplaceable portion of the sample train, extreme meteorological conditions, or other circumstances beyond the owner or operator's control, compliance may, upon the Director's approval, be determined using the arithmetic means of the results of the 2 other runs. If the Director, or the Director's designee is present, tests may only be stopped with the Director's or such designee's approval. If the Director, or the Director's designee is not present, tests may only be stopped for good cause, which includes forced shutdown, failure of an irreplaceable portion of the sample train, extreme meteorological conditions, or other circumstances beyond the operator's control. Termination of testing without good cause after the 1st run is commenced shall constitute a failure of the test.
- G. Except as provided in subsection (H) compliance with the emission limits established in this Chapter or as prescribed in permits issued pursuant to this Chapter shall be determined by the performance tests specified in this Section or in the permit.
- H. In addition to performance tests specified in this Section, compliance with specific emission limits may be determined by:
1. Opacity tests.
 2. Emission limit compliance tests specifically designated as such in the regulation establishing the emission limit to be complied with.
 3. Continuous emission monitoring, where applicable quality assurance procedures are followed and where it is designated in the permit or in an applicable requirement to show compliance.
- I. Nothing in this Section shall be so construed as to prevent the utilization of measurements from emissions monitoring devices or techniques not designated as performance tests as evidence of compliance with applicable good maintenance and operating requirements.

Historical Note

Adopted effective May 14, 1979 (Supp. 79-1). Amended effective September 28, 1984 (Supp. 84-5). Former Section R9-3-312 renumbered without change as R18-2-312 (Supp. 87-3). Section repealed, new Section adopted effective November 15, 1993 (Supp. 93-4).

R18-2-313. Existing Source Emission Monitoring

- A. Every source subject to an existing source performance standard as specified in this Chapter shall install, calibrate, operate, and maintain all monitoring equipment necessary for continuously monitoring the pollutants and other gases specified in this Section for the applicable source category.
1. Applicability.
 - a. Fossil-fuel fired steam generators, as specified in subsection (C)(1), shall be monitored for opacity,

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- nitrogen oxides emissions, sulfur dioxide emissions, and oxygen or carbon dioxide.
- b. Fluid bed catalytic cracking unit catalyst regenerators, as specified in subsection (C)(4), shall be monitored for opacity.
 - c. Sulfuric acid plants, as specified in subsection (C)(3) of this Section, shall be monitored for sulfur dioxide emissions.
 - d. Nitric acid plants, as specified in subsection (C)(2), shall be monitored for nitrogen oxides emissions.
2. Emission monitoring shall not be required when the source of emissions is not operating.
 3. Variations.
 - a. Unless otherwise prohibited by the Act, the Director may approve, on a case-by-case basis, alternative monitoring requirements different from the provisions of this Section if the installation of a continuous emission monitoring system cannot be implemented by a source due to physical plant limitations or extreme economic reasons. Alternative monitoring procedures shall be specified by the Director on a case-by-case basis and shall include, as a minimum, annual manual stack tests for the pollutants identified for each type of source in this Section. Extreme economic reasons shall mean that the requirements of this Section would cause the source to be unable to continue in business.
 - b. Alternative monitoring requirements may be prescribed when installation of a continuous emission monitoring system or monitoring device specified by this Section would not provide accurate determinations of emissions (e.g., condensed, uncombined water vapor may prevent an accurate determination of opacity using commercially available continuous emission monitoring systems).
 - c. Alternative monitoring requirements may be prescribed when the affected facility is infrequently operated (e.g., some affected facilities may operate less than 1 month per year).
 4. Monitoring system malfunction: A temporary exemption from the monitoring and reporting requirements of this Section may be provided during any period of monitoring system malfunction, provided that the source owner or operator demonstrates that the malfunction was unavoidable and is being repaired expeditiously.
- B.** Installation and performance testing required under this Section shall be completed and monitoring and recording shall commence within 18 months of the effective date of this Section.
- C.** Minimum monitoring requirements:
1. Fossil-fuel fired steam generators: Each fossil-fuel fired steam generator, except as provided in the following subsections, with an annual average capacity factor of greater than 30%, as reported to the Federal Power Commission for calendar year 1976, or as otherwise demonstrated to the Department by the owner or operator, shall conform with the following monitoring requirements when such facility is subject to an emission standard for the pollutant in question.
 - a. A continuous emission monitoring system for the measurement of opacity which meets the performance specifications of this Section shall be installed, calibrated, maintained, and operated in accordance with the procedures of this Section by the owner or operator of any such steam generator of greater than 250 million Btu per hour heat input except where:
 - i. Gaseous fuel is the only fuel burned; or
 - ii. Oil or a mixture of gas and oil are the only fuels burned and the source is able to comply with the applicable particulate matter and opacity regulations without utilization of particulate matter collection equipment, and where the source has never been found to be in violation through any administrative or judicial proceedings, or accepted responsibility for any violation of any visible emission standard.
 - b. A continuous emission monitoring system for the measurement of sulfur dioxide which meets the performance specifications of this Section shall be installed, calibrated, using sulfur dioxide calibration gas mixtures or other gas mixtures approved by the Director, maintained and operated on any fossil-fuel fired steam generator of greater than 250 million Btu per hour heat input which has installed sulfur dioxide pollutant control equipment.
 - c. A continuous emission monitoring system for the measurement of nitrogen oxides which meets the performance specification of this Section shall be installed, calibrated using nitric oxide calibration gas mixtures or other gas mixtures approved by the Director, maintained and operated on fossil-fuel fired steam generators of greater than 1000 million Btu per hour heat input when such facility is located in an air quality control region where the Director has specifically determined that a control strategy for nitrogen dioxide is necessary to attain the ambient air quality standard specified in R18-2-205, unless the source owner or operator demonstrates during source compliance tests as required by the Department that such a source emits nitrogen oxides at levels 30% or more below the emission standard within this Chapter.
 - d. A continuous emission monitoring system for the measurement of the percent oxygen or carbon dioxide which meets the performance specifications of this Section shall be installed, calibrated, operated, and maintained on fossil-fuel fired steam generators where measurements of oxygen or carbon dioxide in the flue gas are required to convert either sulfur dioxide or nitrogen oxides continuous emission monitoring data, or both, to units of the emission standard within this Chapter.
 2. Nitric acid plants: Each nitric acid plant of greater than 300 tons per day production capacity, the production capacity being expressed as 100% acid located in an air quality control region where the Director has specifically determined that a control strategy for nitrogen dioxide is necessary to attain the ambient air quality standard specified in R18-2-205, shall install, calibrate using nitrogen dioxide calibration gas mixtures, maintain, and operate a continuous emission monitoring system for the measurement of nitrogen oxides which meets the performance specifications of this Section for each nitric acid producing facility within such plant.
 3. Sulfuric acid plants: Each sulfuric acid plant as defined in R18-2-101, of greater than 300 tons per day production capacity, the production being expressed as 100% acid, shall install, calibrate using sulfur dioxide calibration gas mixtures or other gas mixtures approved by the Director, maintain and operate a continuous emission monitoring

- system for the measurement of sulfur dioxide which meets the performance specifications of this Section for each sulfuric acid producing facility within such a plant.
4. Fluid bed catalytic cracking unit catalyst regenerators at petroleum refineries. Each catalyst regenerator for fluid bed catalytic cracking units of greater than 20,000 barrels per day fresh-feed capacity shall install, calibrate, maintain and operate a continuous emission monitoring system for the measurement of opacity which meets the performance specifications of this Section for each regenerator within such refinery.
- D. Minimum specifications:** Owners or operators of monitoring equipment installed to comply with this Section shall demonstrate compliance with the following performance specifications.
1. The performance specifications set forth in Appendix B of 40 CFR 60 are incorporated herein by reference and shall be used by the Director to determine acceptability of monitoring equipment installed pursuant to this Section. However where reference is made to the Administrator in Appendix B of 40 CFR 60, the Director may allow the use of either the state-approved reference method or the federally approved reference method as published in 40 CFR 60. The performance specifications to be used with each type of monitoring system are listed below.
 - a. Continuous emission monitoring systems for measuring opacity shall comply with performance specification 1.
 - b. Continuous emission monitoring systems for measuring nitrogen oxides shall comply with performance specification 2.
 - c. Continuous emission monitoring systems for measuring sulfur dioxide shall comply with performance specification 2.
 - d. Continuous emission monitoring systems for measuring sulfur dioxide shall comply with performance specification 3.
 - e. Continuous emission monitoring systems for measuring carbon dioxide shall comply with performance specification 3.
 2. Calibration gases: Span and zero gases shall be traceable to National Bureau of Standards reference gases whenever these reference gases are available. Every 6 months from date of manufacture, span and zero gases shall be reanalyzed by conducting triplicate analyses using the reference methods in Appendix A of 40 CFR 60 (Chapter 1) as amended: For sulfur dioxide, use Reference Method 6; for nitrogen oxides, use Reference method 7; and for carbon dioxide or oxygen, use Reference Method 3. The gases may be analyzed at less frequent intervals if longer shelf lives are guaranteed by the manufacturer.
 3. Cycling time: Time includes the total time required to sample, analyze, and record an emission measurement.
 - a. Continuous emission monitoring systems for measuring opacity shall complete a minimum of 1 cycle of sampling and analyzing for each successive 6-minute period.
 - b. Continuous emission monitoring systems for measuring oxides of nitrogen, carbon dioxide, oxygen, or sulfur dioxide shall complete a minimum of 1 cycle of operation (sampling, analyzing, and date recording) for each successive 15-minute period.
 4. Monitor location: All continuous emission monitoring systems or monitoring devices shall be installed such that representative measurements of emissions of process parameter (i.e., oxygen, or carbon dioxide) from the affected facility are obtained. Additional guidance for location of continuous emission monitoring systems to obtain representative samples are contained in the applicable performance specifications of Appendix B of 40 CFR 60.
 5. Combined effluents: When the effluents from two or more affected facilities of similar design and operating characteristics are combined before being released to the atmosphere through more than one point, separate monitors shall be installed.
 6. Zero and drift: Owners or operators of all continuous emission monitoring systems installed in accordance with the requirements of this Section shall record the zero and span drift in accordance with the method prescribed by the manufacturer's recommended zero and span check at least once daily, using calibration gases specified in subsection (C) as applicable, unless the manufacturer has recommended adjustments at shorter intervals, in which case such recommendations shall be followed; shall adjust the zero span whenever the 24-hour zero drift or 24-hour calibration drift limits of the applicable performance specifications in Appendix B of Part 60, Chapter 1, Title 40 CFR are exceeded.
 7. Span: Instrument span should be approximately 200% of the expected instrument data display output corresponding to the emission standard for the source.
- E. Minimum data requirement:** The following subsections set forth the minimum data reporting requirements for sources employing continuous monitoring equipment as specified in this Section. These periodic reports do not relieve the source operator from the reporting requirements of R18-2-310.01.
1. The owners or operators of facilities required to install continuous emission monitoring systems shall submit to the Director a written report of excess emissions for each calendar quarter and the nature and cause of the excess emissions, if known. The averaging period used for data reporting shall correspond to the averaging period specified in the emission standard for the pollutant source category in question. The required report shall include, as a minimum, the data stipulated in this subsection.
 2. For opacity measurements, the summary shall consist of the magnitude in actual percent opacity of all 6-minute opacity averages greater than any applicable standards for each hour of operation of the facility. Average values may be obtained by integration over the averaging period or by arithmetically averaging a minimum of four equally spaced, instantaneous opacity measurements per minute. Any time periods exempted shall be deleted before determining any averages in excess of opacity standards.
 3. For gaseous measurements the summary shall consist of emission averages in the units of the applicable standard for each averaging period during which the applicable standard was exceeded.
 4. The date and time identifying each period during which the continuous emission monitoring system was inoperative, except for zero and span checks and the nature of system repair or adjustment shall be reported. The Director may require proof of continuous emission monitoring system performance whenever system repairs or adjustments have been made.
 5. When no excess emissions have occurred and the continuous emission monitoring system(s) have not been inoperative, repaired, or adjusted, such information shall be included in the report.
 6. Owners or operators of affected facilities shall maintain a file of all information reported in the quarterly summary.

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ries, and all other data collected either by the continuous emission monitoring system or as necessary to convert monitoring data to the units of the applicable standard for a minimum of two years from the date of collection of such data or submission of such summaries.

F. Data reduction: Owners or operators of affected facilities shall use the following procedures for converting monitoring data to units of the standard where necessary.

i. For fossil-fuel fired steam generators the following procedures shall be used to convert gaseous emission monitoring data in parts per million to g/million cal (lb/million Btu) where necessary.

a. When the owner or operator of a fossil-fuel fired steam generator elects under subsection (C)(1)(d) to measure oxygen in the flue gases, the measurements of the pollutant concentration and oxygen concentration shall each be on a consistent basis (wet or dry).

i. When measurements are on a wet basis, except where wet scrubbers are employed or where moisture is otherwise added to stack gases, the following conversion procedure shall be used:

$$E(Q) = C(ws)F(w) \left[\frac{20.9}{20.9(1-B(wa)) - \%O(2ws)} \right]$$

ii. When measurements are on a wet basis and the water vapor content of the stack gas is determined at least once every 15 minutes the following conversion procedure shall be used:

$$E(Q) = C(ws)F \left[\frac{20.9}{20.9(1-B(wa)) \%O(2ws)} \right]$$

Use of this equation is contingent upon demonstrating the ability to accurately determine B(ws) such that any absolute error in B(ws) will not cause an error of more than ±1.5% in the term:

$$\left[\frac{20.9}{20.9(1-B(wa)) - \%O(2ws)} \right]$$

iii. When measurements are on a dry basis, the following conversion procedure shall be used:

$$E(Q) = CF \left[\frac{20.9}{20.9 - \%O(2ws)} \right]$$

b. When the owner or operator elects under subsection (C)(1)(d) to measure carbon dioxide in the flue gases, the measurement of the pollutant concentration and the carbon dioxide concentration shall each be on a consistent basis (wet or dry) and the following conversion procedure used;

$$E(Q) = CF(c) \left[\frac{100}{\%CO(2)} \right]$$

c. The values used in the equations under subsection (F)(1) above are derived as follows:

E(Q) = pollutant emission, g/million cal (lb/million Btu).

C = pollutant concentration, g/dscm (lb/dscf), determined by multiplying the average concentration (ppm) for each hourly period by 4.16×10^{-5} M g/dscm per ppm (2.64×10^{-9} M lb/dscf per ppm) where M = pollutant molecular weight, g/g-mole (lb/lb-mole), M = 64 for sulfur dioxide and 46 for oxides of nitrogen.

C(ws) = pollutant concentrations at stack conditions, g/wscm (lb/wscf), determined by multiplying the average concentration (ppm) for each 1-hour period by 4.15×10^{-5} M lb/wscm per ppm (2.59×10^{-5} M lb/wscf per ppm) where M = pollutant molecular weight, g/g mole (lb/lb mole). M = 64 for sulfur dioxide and 46 for nitrogen oxides.

%O(2), %CO(2) = Oxygen or carbon dioxide volume (expressed as percent) determined with equipment specified under subsection (D)(1)(d).

F,F(c) = A factor representing a ratio of the volume of dry flue gases generated to the calorific value of the fuel combusted (F), a factor representing a ratio of the volume of carbon dioxide generated to the calorific value of the fuel combusted (F(c)), respectively. Values of F and F(c) are given in 40 CFR 60.45(f) (Chapter 1).

F(w) = A factor representing a ratio of the volume of wet flue gases generated to the calorific value of the fuel combusted. Values of F(w) are given in Reference Method 19 of the Arizona Testing Manual.

B(wa) = Proportion by volume of water vapor in the ambient air. Approval may be given for determination of B(wa) by on-site instrumental measurement provided that the absolute accuracy of the measurement technique can be demonstrated to be within ± 0.7% water vapor. Estimation methods for B(wa) are given in Reference Method 19 of the Arizona Testing Manual.

B(ws) = Proportion by volume of water vapor in the stack gas.

2. For sulfuric acid plants as defined in R18-2-101, the owner or operator shall:

- Establish a conversion factor 3 times daily according to the procedures of 40 CFR 60.84(b) (Chapter 1),
- Multiply the conversion factor by the average sulfur dioxide concentration in the flue gases to obtain average sulfur dioxide emissions in Kg/metric ton (lb/short ton), and
- Report the average sulfur dioxide emission for each averaging period in excess of the applicable emission standard in the quarterly summary.

3. For nitric acid plants, the owner or operator shall:

- Establish a conversion factor according to the procedures of 40 CFR 60.73(b) (Chapter 1),
- Multiply the conversion factor by the average nitrogen oxides concentration in the flue gases to obtain the nitrogen oxides emissions in the units of the applicable standard,
- Report the average nitrogen oxides emission for each averaging period in excess of applicable emission standard in the quarterly summary.

4. The Director may allow data reporting or reduction procedures varying from those set forth in this Section if the owner or operator of a source shows to the satisfaction of the Director that his procedures are at least as accurate as those in this Section. Such procedures may include but are not limited to the following:
- Alternative procedures for computing emission averages that do not require integration of data (e.g., some facilities may demonstrate that the variability of their emissions is sufficiently small to allow accurate reduction of data based upon computing averages from equally spaced data points over the averaging period).
 - Alternative methods of converting pollutant concentration measurements to the units of the emission standards.

Historical Note

Adopted effective May 14, 1979 (Supp. 79-1). Amended effective October 2, 1979 (Supp. 79-5). Editorial correction, subsection (C), paragraph (1), subparagraph (d) (Supp. 80-2). Amended effective July 9, 1980 (Supp. 80-4). Former Section R9-3-313 renumbered without change as R18-2-313 (Supp. 87-3). Amended effective September 26, 1990 (Supp. 90-3). Section repealed, new Section adopted effective November 15, 1993 (Supp. 93-4). Amended by final rulemaking at 7 A.A.R. 1164, effective February 15, 2001 (Supp. 01-1).

R18-2-314. Quality Assurance

Facilities subject to the permit requirements of this Article shall submit a quality assurance plan to the Director that meets the requirements of R18-2-311(D)(3) within 12 months of the effective date of this Section. Facilities subject to the requirements of R18-2-313 shall submit a quality assurance plan as specified in the permit.

Historical Note

Adopted effective May 14, 1979 (Supp. 79-1). Amended effective July 9, 1980 (Supp. 80-4). Former Section R9-3-314 renumbered without change as R18-2-314 (Supp. 87-3). Section repealed, new Section adopted effective November 15, 1993 (Supp. 93-4).

R18-2-315. Posting of Permit

- Any person who has been granted an individual or general permit shall post such permit or a certificate of permit issuance on location where the equipment is installed in such a manner as to be clearly visible and accessible. All equipment covered by the permit shall be clearly marked with 1 of the following:
 - The current permit number,
 - A serial number or other equipment number that is also listed in the permit to identify that piece of equipment.
- A copy of the complete permit shall be kept on the site.

Historical Note

Adopted effective May 14, 1979 (Supp. 79-1). Amended effective July 9, 1980 (Supp. 80-4). Former Section R9-3-315 renumbered without change as R18-2-315 (Supp. 87-3). Section repealed, new Section adopted effective November 15, 1993 (Supp. 93-4).

R18-2-316. Notice by Building Permit Agencies

All agencies of the county or political subdivisions of the county that issue or grant building permits or approvals shall examine the plans and specifications submitted by an applicant for a permit or approval to determine if an air pollution permit will possibly be required under the provisions of this Chapter. If it appears that an air pollution permit will be required, the agency or political subdivi-

vision shall give written notice to the applicant to contact the Director and shall furnish a copy of that notice to the Director.

Historical Note

Adopted effective May 14, 1979 (Supp. 79-1). Former Section R9-3-316 renumbered without change as R18-2-316 (Supp. 87-3).

R18-2-317. Facility Changes Allowed Without Permit Revisions - Class I

- A facility with a Class I permit may make changes without a permit revision if all of the following apply:
 - The changes are not modifications under any provision of Title I of the Act or under A.R.S. § 49-401.01(17);
 - The changes do not exceed the emissions allowable under the permit whether expressed therein as a rate of emissions or in terms of total emissions;
 - The changes do not violate any applicable requirements or trigger any additional applicable requirements;
 - The changes satisfy all requirements for a minor permit revision under R18-2-319(A); and
 - The changes do not contravene federally enforceable permit terms and conditions that are monitoring (including test methods), recordkeeping, reporting, or compliance certification requirements.
- The substitution of an item of process or pollution control equipment for an identical or substantially similar item of process or pollution control equipment shall qualify as a change that does not require a permit revision, if the substitution meets all of the requirements of subsections (A), (D), and (E).
- Except for sources with authority to operate under general permits, permitted sources may trade increases and decreases in emissions within the permitted facility, as established in the permit under subsection R18-2-306(A)(12), if an applicable implementation plan provides for the emissions trades without applying for a permit revision and based on the 7 working days notice prescribed in subsection (D). This provision is available if the permit does not provide for the emissions trading as a minor permit revision.
- For each change under subsections (A) through (C), a written notice by certified mail or hand delivery shall be received by the Director and the Administrator a minimum of 7 working days in advance of the change. Notifications of changes associated with emergency conditions, such as malfunctions necessitating the replacement of equipment, may be provided less than 7 working days in advance of the change but must be provided as far in advance of the change or, if advance notification is not practicable, as soon after the change as possible.
- Each notification shall include:
 - When the proposed change will occur;
 - A description of the change;
 - Any change in emissions of regulated air pollutants;
 - The pollutants emitted subject to the emissions trade, if any;
 - The provisions in the implementation plan that provide for the emissions trade with which the source will comply and any other information as may be required by the provisions in the implementation plan authorizing the trade;
 - If the emissions trading provisions of the implementation plan are invoked, then the permit requirements with which the source will comply; and
 - Any permit term or condition that is no longer applicable as a result of the change.
- The permit shield described in R18-2-325 shall not apply to any change made under subsections (A) through (C). Compliance with the permit requirements that the source will meet using the emissions trade shall be determined according to

requirements of the implementation plan authorizing the emissions trade.

- G. Except as otherwise provided for in the permit, making a change from 1 alternative operating scenario to another as provided under R18-2-306(A)(11) shall not require any prior notice under this Section.
- H. Notwithstanding any other part of this Section, the Director may require a permit to be revised for any change that, when considered together with any other changes submitted by the same source under this Section over the term of the permit, do not satisfy subsection (A).
- I. The Director shall make available to the public monthly summaries of all notices received under this Section.

Historical Note

Adopted effective May 14, 1979 (Supp. 79-1). Former Section R9-3-317 renumbered without change as R18-2-317 (Supp. 87-3). Section repealed, new Section adopted effective November 15, 1993 (Supp. 93-4). Amended by final rulemaking at 5 A.A.R. 4074, effective September 22, 1999 (Supp. 99-3).

R18-2-317.01. Facility Changes that Require a Permit Revision - Class II

- A. The following changes at a source with a Class II permit shall require a permit revision:
 1. A change that triggers a new applicable requirement or violates an existing applicable requirement.
 2. Establishment of, or change in, an emissions cap;
 3. A change that will require a case-by-case determination of an emission limitation or other standard, or a source-specific determination of ambient impacts, or a visibility or increment analysis;
 4. A change that results in emissions that are subject to monitoring, recordkeeping or reporting under subsections R18-2-306(A)(3),(4), or (5) if the emissions cannot be measured or otherwise adequately quantified by monitoring, recordkeeping, or reporting requirements already in the permit;
 5. A change that will authorize the burning of used oil, used oil fuel, hazardous waste, or hazardous waste fuel, or any other fuel not currently authorized by the permit;
 6. A change that requires the source to obtain a Class I permit;
 7. Replacement of an item of air pollution control equipment listed in the permit with 1 that does not have the same or better pollutant removal efficiency;
 8. Establishment or revision of a limit under R18-2-306.01;
 9. Increasing operating hours or rates of production above the permitted level; and
 10. A change that relaxes monitoring, recordkeeping, or reporting requirements, except when the change results:
 - a. From removing equipment that results in a permanent decrease in actual emissions, if the source keeps on-site records of the change in a log that satisfies Appendix 3 of this Chapter and if the requirements that are relaxed are present in the permit solely for the equipment that was removed; or
 - b. From a change in an applicable requirement.
- B. A source with a Class II permit may make any physical change or change in the method of operation without revising the source's permit unless the change is specifically prohibited in the source's permit or is a change described in subsection (A). A change that does not require a permit revision may still be subject to requirements in R18-2-317.02.

Historical Note

New Section adopted by final rulemaking at 5 A.A.R.

4074, effective September 22, 1999 (Supp. 99-3).

R18-2-317.02. Procedures for Certain Changes that do not Require a Permit Revision - Class II

- A. Except for a physical change or change in the method of operation at a Class II source requiring a permit revision under R18-2-317.01, or a change subject to logging or notice requirements in subsection (B) or (C), a change at a Class II source shall not be subject to revision, notice, or logging requirements under this Chapter.
- B. Except as otherwise provided in the conditions applicable to an emissions cap created under R18-2-306.02, the following changes may be made if the source keeps onsite records of the changes according to Appendix 3:
 1. Implementing an alternative operating scenario, including raw material changes;
 2. Changing process equipment, operating procedures, or making any other physical change if the permit requires the change to be logged;
 3. Engaging in any new insignificant activity listed in R18-2-101(57)(a) through (i) but not listed in the permit;
 4. Replacing an item of air pollution control equipment listed in the permit with an identical (same model, different serial number) item: The Director may require verification of efficiency of the new equipment by performance tests; and
 5. A change that results in a decrease in actual emissions if the source wants to claim credit for the decrease in determining whether the source has a net emissions increase for any purpose. The logged information shall include a description of the change that will produce the decrease in actual emissions. A decrease that has not been logged is creditable only if the decrease is quantifiable, enforceable, and otherwise qualifies as a creditable decrease.
- C. Except as provided in the conditions applicable to an emissions cap created under R18-2-306.02, the following changes may be made if the source provides written notice to the Department in advance of the change as provided below:
 1. Replacing an item of air pollution control equipment listed in the permit with one that is not identical but that is substantially similar and has the same or better pollutant removal efficiency: 7 days. The Director may require verification of efficiency of the new equipment by performance tests;
 2. A physical change or change in the method of operation that increases actual emissions more than 10% of the major source threshold for any conventional pollutant but does not require a permit revision: 7 days;
 3. Replacing an item of air pollution control equipment listed in the permit with one that is not substantially similar but that has the same or better efficiency: 30 days. The Director may require verification of efficiency of the new equipment by performance tests;
 4. A change that would trigger an applicable requirement that already exists in the permit: 30 days unless otherwise required by the applicable requirement;
 5. A change that amounts to reconstruction of the source or an affected facility: 7 days. For purposes of this subsection, reconstruction of a source or an affected facility shall be presumed if the fixed capital cost of the new components exceeds 50% of the fixed capital cost of a comparable entirely new source or affected facility and the changes to the components have occurred over the 12 consecutive months beginning with commencement of construction; and
 6. A change that will result in the emissions of a new regulated air pollutant above an applicable regulatory thresh-

old but that does not trigger a new applicable requirement for that source category: 30 days. For purposes of this requirement, an applicable regulatory threshold for a conventional air pollutant shall be 10% of the applicable major source threshold for that pollutant.

- D. For each change under subsection (C), the written notice shall be by certified mail or hand delivery and shall be received by the Director the minimum amount of time in advance of the change. Notifications of changes associated with emergency conditions, such as malfunctions necessitating the replacement of equipment, may be provided with less than required notice, but must be provided as far in advance of the change, or if advance notification is not practicable, as soon after the change as possible. The written notice shall include:
1. When the proposed change will occur,
 2. A description of the change,
 3. Any change in emissions of regulated air pollutants, and
 4. Any permit term or condition that is no longer applicable as a result of the change.
- E. A source may implement any change in subsection (C) without the required notice by applying for a minor permit revision under R18-2-319 and complying with subsection R18-2-319(D)(2) and (G).
- F. The permit shield described in R18-2-325 shall not apply to any change made under this Section, other than implementation of an alternate operating scenario under subsection (B)(1).
- G. Notwithstanding any other part of this Section, the Director may require a permit to be revised for any change that, when considered together with any other changes submitted by the same source under this Section over the term of the permit, constitutes a change under subsection R18-317.01(A).
- H. If a source change is described under both subsections (B) and (C), the source shall comply with subsection (C). If a source change is described under both subsections (C) and R18-2-317.01(B), the source shall comply with R18-2-317.01(B).
- I. A copy of all logs required under subsection (B) shall be filed with the Director within 30 days after each anniversary of the permit issue date. If no changes were made at the source requiring logging, a statement to that effect shall be filed instead.

Historical Note

New Section adopted by final rulemaking at 5 A.A.R. 4074, effective September 22, 1999 (Supp. 99-3).

R18-2-318. Administrative Permit Amendments

- A. Except for provisions pursuant to Title IV of the Act, an administrative permit amendment is a permit revision that does any of the following:
1. Corrects typographical errors;
 2. Identifies a change in the name, address, or phone number of any person identified in the permit, or provides a similar minor administrative change at the source;
 3. Requires more frequent monitoring or reporting by the permittee;
 4. Allows for a change in ownership or operational control of a source as approved under R18-2-323 where the Director determines that no other change in the permit is necessary, provided that a written agreement containing a specific date for transfer of permit responsibility coverage, and liability between the current and new permittee has been submitted to the Director;
- B. Administrative permit amendments to Title IV provisions of the permit shall be governed by regulations promulgated by the Administrator under Title IV of the Act.
- C. The Director shall take no more than 60 days from receipt of a request for an administrative permit amendment to take final

action on such request, and for Class I permits may incorporate such changes without providing notice to the public or affected states provided that it designates any such permit revisions as having been made pursuant to this Section.

- D. The Director shall submit a copy of Class I permits revised under this Section to the Administrator.
- E. Except for administrative permit amendments involving a transfer under R18-2-323, the source may implement the changes addressed in the request for an administrative amendment immediately upon submittal of the request.

Historical Note

Adopted effective May 14, 1979 (Supp. 79-1). Former Section R9-3-318 renumbered without change as R18-2-318 (Supp. 87-3). Amended subsection (A) effective December 1, 1988 (Supp. 88-4). Section repealed, new Section adopted effective November 15, 1993 (Supp. 93-4).

R18-2-318.01. Annual Summary Permit Amendments for Class II Permits

The Director may amend any Class II permit annually without following R18-2-321 in order to incorporate changes reflected in logs or notices filed under R18-2-317.02. The amendment shall be effective to the anniversary date of the permit. The Director shall make available to the public for any source:

1. A complete record of logs and notices sent to the Department under R18-2-317.02; and
2. Any amendments or revisions to the source's permit.

Historical Note

New Section adopted by final rulemaking at 5 A.A.R. 4074, effective September 22, 1999 (Supp. 99-3).

R18-2-319. Minor Permit Revisions

- A. Minor permit revision procedures may be used only for those changes at a Class I source that satisfy all of the following:
1. Do not violate any applicable requirement;
 2. Do not involve substantive changes to existing monitoring, reporting, or recordkeeping requirements in the permit;
 3. Do not require or change a case-by-case determination of an emission limitation or other standard, or a source-specific determination of ambient impacts, or a visibility or increment analysis;
 4. Do not seek to establish or change a permit term or condition for which there is no corresponding underlying applicable requirement and that the source has assumed in order to avoid an applicable requirement to which the source would otherwise be subject. The terms and conditions include:
 - a. A federally enforceable emissions cap that the source would assume to avoid classification as a modification under any provision of Title I of the Act; and
 - b. An alternative emissions limit approved under regulations promulgated under the Section 112(i)(5) of the Act.
 5. Are not modifications under any provision of Title I of the Act;
 6. Are not changes in fuels not represented in the permit application or provided for in the permit;
 7. The increase in the source's potential to emit any regulated air pollutant is not significant as defined in R18-2-101; and
 8. Are not required to be processed as a significant revision under R18-2-320.

- B. Minor permit revision procedures shall be used for the following changes at a Class II source:
1. A change that triggers a new applicable requirement if all of the following apply:
 - a. For emissions units not subject to an emissions cap, the net emissions increase is less than the significant level defined in subsection R18-2-101(111);
 - b. A case-by-case determination of an emission limitation or other standard is not required; and
 - c. The change does not require the source to obtain a Class I permit;
 2. Increasing operating hours or rates of production above the permitted level unless the increase otherwise creates a condition that requires a significant permit revision;
 3. A change in fuel from fuel oil or coal, to natural gas or propane, if not authorized in the permit;
 4. A change that results in emissions subject to monitoring, recordkeeping, or reporting under subsection R18-2-306(A)(3),(4), or (5) and that cannot be measured or otherwise adequately quantified by monitoring, recordkeeping, or reporting requirements already in the permit;
 5. A decrease in the emissions permitted under an emissions cap unless the decrease requires a change in the conditions required to enforce the cap or to ensure that emissions trades conducted under the cap are quantifiable and enforceable; and
 6. Replacement of an item of air pollution control equipment listed in the permit with one that does not have the same or better efficiency.
- C. As approved by the Director, minor permit revision procedures may be used for permit revisions involving the use of economic incentives, marketable permits, emissions trading, and other similar approaches, to the extent that the minor permit revision procedures are explicitly provided for in an applicable implementation plan or in applicable requirements promulgated by the Administrator.
- D. An application for minor permit revision shall be on the standard application form contained in Appendix 1 and include the following:
1. A description of the change, the emissions resulting from the change, and any new applicable requirements that will apply if the change occurs;
 2. For Class I sources, and any source that is making the change immediately after it files the application, the source's suggested draft permit;
 3. Certification by a responsible official, consistent with standard permit application requirements, that the proposed revision meets the criteria for use of minor permit revision procedures and a request that the procedures be used;
- E. EPA and affected state notification. For Class I permits, within 5 working days of receipt of an application for a minor permit revision, the Director shall notify the Administrator and affected states of the requested permit revision in accordance with R18-2-307.
- F. The Director shall follow the following timetable for action on an application for a minor permit revision:
1. For Class I permits, the Director shall not issue a final permit revision until after the Administrator's 45-day review period or until the Administrator has notified the Director that the Administrator will not object to issuance of the permit revision, whichever is 1st, although the Director may approve the permit revision before that time. Within 90 days of the Director's receipt of an application under minor permit revision procedures, or 15 days after the end of the Administrator's 45-day review period, whichever is later, the Director shall do 1 or more of the following:
 - a. Issue the permit revision as proposed,
 - b. Deny the permit revision application,
 - c. Determine that the proposed permit revision does not meet the minor permit revision criteria and should be reviewed under the significant revision procedures, or
 - d. Revise the proposed permit revision and transmit to the Administrator the new proposed permit revision as required in R18-2-307.
 2. Within 60 days of the Director's receipt of an application for a revision of a Class II permit under this Section, the Director shall do 1 or more of the following:
 - a. Issue the permit revision as proposed;
 - b. Deny the permit revision application;
 - c. Determine that the permit revision does not meet the minor permit revision criteria and should be reviewed under the significant revision procedures; or
 - d. Revise and issue the proposed permit revision.
- G. The source may make the change proposed in its minor permit revision application immediately after it files the application. After the source makes the change allowed by the preceding sentence, and until the Director takes any of the actions specified in subsection (F), the source shall comply with both the applicable requirements governing the change and the proposed revised permit terms and conditions. During this time period, the source need not comply with the existing permit terms and conditions it seeks to modify. However, if the source fails to comply with its proposed permit terms and conditions during this time period, the existing permit terms and conditions it seeks to revise may be enforced against it.
- H. The permit shield under R18-2-325 shall not extend to minor permit revisions.
- I. Notwithstanding any other part of this Section, the Director may require a permit to be revised under R18-2-320 for any change that, when considered together with any other changes submitted by the same source under this Section or R18-2-317.02 over the life of the permit, do not satisfy subsection (A) for Class I sources or subsection (B) for Class II sources.
- J. The Director shall make available to the public monthly summaries of all applications for minor permit revisions.

Historical Note

Adopted effective May 14, 1979 (Supp. 79-1). Former Section R9-3-319 renumbered without change as R18-2-319 (Supp. 87-3). Section repealed, new Section adopted effective November 15, 1993 (Supp. 93-4). Amended by final rulemaking at 5 A.A.R. 4074, effective September 22, 1999 (Supp. 99-3).

R18-2-320. Significant Permit Revisions

- A. For Class I sources, a significant revision shall be used for an application requesting a permit revision that does not qualify as a minor permit revision or as an administrative amendment. A significant revision that is only required because of a change described in R18-2-319(A)(6) or (7) shall not be considered a significant permit revision under part 70 for the purposes of 40 CFR 64.5(a)(2). Every significant change in existing monitoring permit terms or conditions and every relaxation of reporting or recordkeeping permit terms or conditions shall follow significant revision procedures.
- B. A source with a Class II permit shall make the following changes only after the permit is revised following the public participation requirements of R18-2-330:

1. Establishing or revising a voluntarily accepted emission limitation or standard as described by R18-2-306.01 or R18-2-306.02, except a decrease in the limitation authorized by subsection R18-2-319(B)(5);
 2. Making any change in fuel not authorized by the permit and that is not fuel oil or coal, to natural gas or propane;
 3. A change to or addition of an emissions unit not subject to an emissions cap that will result in a net emission increase of a pollutant greater than the significance level in subsection R18-2-101(104);
 4. A change that relaxes monitoring, recordkeeping, or reporting requirements, except when the change results from:
 - a. Removing equipment that results in a permanent decrease in actual emissions, if the source keeps on-site records of the change in a log that satisfies Appendix 3 of this Chapter and if the requirements that are relaxed are present in the permit solely for the equipment that was removed; or
 - b. A change in an applicable requirement.
 5. A change that will cause the source to violate an existing applicable requirement including the conditions establishing an emissions cap;
 6. A change that will require any of the following:
 - a. A case-by-case determination of an emission limitation or other standard;
 - b. A source-specific determination of ambient impacts, or a visibility or increment analysis; or
 - c. A case-by-case determination of a monitoring, recordkeeping, and reporting requirement.
 7. A change that requires the source to obtain a Class I permit.
- C. Any modification to a major source of federally listed hazardous air pollutants, and any reconstruction of a source, or a process or production unit, under Section 112(g) of the Act and regulations promulgated thereunder, shall follow significant permit revision procedures and any rules adopted under A.R.S. § 49-426.03.
- D. Significant permit revisions shall meet all requirements of this Article for applications, public participation, review by affected states, and review by the Administrator that apply to permit issuance and renewal.
- E. When an existing source applies for a significant permit revision to revise its permit from a Class II permit to a Class I permit, it shall submit a Class I permit application in accordance with R18-2-304. The Director shall issue the entire permit, and not just the portion being revised, in accordance with Class I permit content and issuance requirements, including requirements for public, affected state, and EPA review, contained in R18-2-307 and R18-2-330.
- F. The Director shall process the majority of significant permit revision applications received each calendar year within 9 months of receipt of a complete permit application but in no case longer than 18 months. Applications for which the Director undertakes accelerated processing under subsection R18-2-326(N) shall not be included in this requirement. This subsection does not change any time-frame requirements in Chapter 1.
- Historical Note**
- Adopted effective September 26, 1990 (Supp. 90-3). Section repealed, new Section adopted effective November 15, 1993 (Supp. 93-4). Amended effective June 4, 1998 (Supp. 98-2). Amended by final rulemaking at 5 A.A.R. 4074, effective September 22, 1999 (Supp. 99-3). Amended by final rulemaking at 6 A.A.R. 343, effective December 20, 1999 (Supp. 99-4).
- R18-2-321. Permit Reopenings; Revocation and Reissuance; Termination**
- A. Reopening for Cause.**
1. Each issued permit shall include provisions specifying the conditions under which the permit shall be reopened prior to the expiration of the permit. A permit shall be reopened and revised under any of the following circumstances:
 - a. Additional applicable requirements under the Act become applicable to a major source with a remaining permit term of 3 or more years. Such a reopening shall be completed not later than 18 months after promulgation of the applicable requirement. No such reopening is required if the effective date of the requirement is later than the date on which the permit is due to expire, unless the original permit or any of its terms and conditions has been extended pursuant to R18-2-322(B). Any permit revision required pursuant to this subsection shall comply with provisions in R18-2-322 for permit renewal and shall reset the 5-year permit term.
 - b. Additional requirements, including excess emissions requirements, become applicable to an affected source under the acid rain program. Upon approval by the Administrator, excess emissions offset plans shall be deemed to be incorporated into the Class I permit.
 - c. The Director or the Administrator determines that the permit contains a material mistake or that inaccurate statements were made in establishing the emissions standards or other terms or conditions of the permit.
 - d. The Director or the Administrator determines that the permit needs to be revised or revoked to assure compliance with the applicable requirements.
 2. Proceedings to reopen and issue a permit, including appeal of any final action relating to a permit reopening, shall follow the same procedures as apply to initial permit issuance and shall, except for reopenings under subsection (1)(a), affect only those parts of the permit for which cause to reopen exists. Such reopening shall be made as expeditiously as practicable.
 3. Reopenings under subsection (A)(1) shall not be initiated before a notice of such intent is provided to the source by the Director at least 30 days in advance of the date that the permit is to be reopened, except that the Director may provide a shorter time period in the case of an emergency.
 4. When a permit is reopened and revised pursuant to this Section, the Director may make appropriate revisions to the permit shield established pursuant to R18-2-325.
- B. Within 10 days of receipt of notice from the Administrator that cause exists to reopen a Class I permit, the Director shall notify the source. The source shall have 30 days to respond to the Director. Within 90 days of receipt of notice from the Administrator that cause exists to reopen a permit, or within any extension to the 90 days granted by EPA, the Director shall forward to the Administrator and the source a proposed determination of termination, revision, or revocation and reissuance of the permit. Within 90 days of receipt of an EPA objection to the Director's proposal, the Director shall resolve the objection and act on the permit.**
- C. The Director may issue a notice of termination of a permit issued pursuant to this Chapter if:**
1. The Director has reasonable cause to believe that the permit was obtained by fraud or misrepresentation.

2. The person applying for the permit failed to disclose a material fact required by the permit application form or the regulation applicable to the permit, of which the applicant had or should have had knowledge at the time the application was submitted.
3. The terms and conditions of the permit have been or are being violated.

If the Director issues a notice of termination under this Section, the notice shall be served on the permittee by certified mail, return receipt requested. The notice shall include a statement detailing the grounds for the revocation and a statement that the permittee is entitled to a hearing.

Historical Note

Adopted effective September 22, 1983 (Supp. 83-5). Former Section R9-3-321 renumbered without change as R18-2-321 (Supp. 87-3). Amended effective September 26, 1990 (Supp. 90-3). Section repealed, new Section adopted effective November 15, 1993 (Supp. 93-4).

R18-2-322. Permit Renewal and Expiration

- A. A permit being renewed is subject to the same procedural requirements, including any for public participation and affected states and Administrator review, that would apply to that permit's initial issuance.
- B. Except as provided in R18-2-303(A), permit expiration terminates the source's right to operate unless a timely application for renewal that is sufficient under A.R.S. § 41-1064 has been submitted in accordance with R18-2-304. Any testing that is required for renewal shall be completed before the proposed permit is issued by the Director.
- C. The Director shall act on an application for a permit renewal within the same time-frames as on an initial permit.

Historical Note

Adopted effective September 22, 1983 (Supp. 83-5). Former Section R9-3-322 renumbered without change as R18-2-322 (Supp. 87-3). Amended effective December 1, 1988 (Supp. 88-4). Section repealed, new Section adopted effective November 15, 1993 (Supp. 93-4).

R18-2-323. Permit Transfers

- A. Except as provided in A.R.S. § 49-429 and subsection (B), a Class I or II permit may be transferred to another person if the person who holds the permit gives notice to the Director in writing at least 30 days before the proposed transfer. The notice shall contain the following:
 1. The permit number and expiration date;
 2. The name, address, and telephone number of the current permit holder;
 3. The name, address and telephone number of the person to receive the permit;
 4. The name and title of the individual within the organization who is accepting responsibility for the permit along with a signed statement by that person indicating such acceptance;
 5. A description of the equipment to be transferred;
 6. A written agreement containing a specific date for transfer of permit responsibility, coverage, and liability between the current and new permittee;
 7. Provisions for the payment of any fees pursuant to R18-2-326 or R18-2-501 that will be due and payable before the effective date of transfer;
 8. Sufficient information about the source's technical and financial capabilities of operating the source to allow the Director to make the decision in subsection (B) including:
 - a. The qualifications of each person principally responsible for the operation of the source;

- b. A statement by the chief financial officer of the new permittee that it is financially capable of operating the facility in compliance with the law, and the information that provides the basis for that statement;
- c. A brief description of any action for the enforcement of any federal or state law, rule, or regulation, or any county, city, or local government ordinance relating to the protection of the environment, instituted against any person employed by the new permittee and principally responsible for operating the facility during the 5 years preceding the date of application. In lieu of this description, the new permittee may submit a copy of the certificate of disclosure or 10-K form required under A.R.S. § 49-109, or a statement that this information has been filed in compliance with A.R.S. § 49-109.

- B. The Director shall deny the transfer if the Director determines that the organization receiving the permit is not capable of operating the source in compliance with A.R.S. Title 49, Chapter 3, Article 2, the provisions of this Chapter or the provisions of the permit. Notice of the denial shall be sent to the original permit holder by certified mail stating the reason for the denial within 10 working days of the Director's receipt of the application. If the transfer is not denied within 10 working days after receipt of the notice, it shall be deemed approved.
- C. To appeal the transfer denial:
 1. Both the transferor and transferee shall petition the hearing board in writing for a public hearing; and
 2. The appeal process for a permit shall be followed.
- D. The Director shall make available to the public monthly summaries of all notices received under this Section.

Historical Note

Adopted effective September 22, 1983 (Supp. 83-5). Former Section R9-3-323 renumbered without change as R18-2-323 (Supp. 87-3). Amended effective September 26, 1990 (Supp. 90-3). Section repealed, new Section adopted effective November 15, 1993 (Supp. 93-4).

R18-2-324. Portable Sources

- A. A portable source that will operate for the duration of its permit solely in 1 county that has established a local air pollution control program pursuant to A.R.S. § 49-479 shall obtain a permit from that county. A portable source with a county permit shall not operate in any other county.
- B. A portable source which has a county permit but proposes to operate outside the county shall obtain a permit from the Director. Upon issuance of a permit by the Director, the county shall terminate the county permit for that source. Before commencing operation in the new county, the source shall notify the Director and the control officer who has jurisdiction over the geographic area that includes the new location according to subsection (D).
- C. An owner of portable source equipment which requires a permit under this Chapter shall obtain the permit prior to renting or leasing said equipment. This permit shall be provided by the owner to the renter or lessee, and the renter or lessee shall be bound by the permit provisions. In the event a copy of the permit is not provided to the renter or lessee, both the owner and the lessee or renter shall be responsible for the operation of this equipment in compliance with the permit conditions and any violations thereof.
- D. A portable source may be transferred from 1 location to another provided that the owner or operator of such equipment notifies the Director and any control officer who has jurisdiction over the geographic area that includes the new location of

the transfer by certified mail at least 10 working days before the transfer. The notification required under this subsection shall include:

1. A description of the equipment to be transferred including the permit number for such equipment;
 2. A description of the present location;
 3. A description of the location to which the equipment is to be transferred, including the availability of all utilities, such as water and electricity, necessary for the proper operation of all control equipment;
 4. The date on which the equipment is to be moved; and
 5. The date on which operation of the equipment will begin at the new location.
- E. Any permit for a portable source shall contain conditions that will assure compliance with all applicable requirements at all authorized locations.

Historical Note

Adopted effective November 15, 1993 (Supp. 93-4).

R18-2-325. Permit Shields

- A. Each Class I or II permit issued under this Chapter shall specifically identify all federal, state, and local air pollution control requirements applicable to the source at the time the permit is issued. The permit shall state that compliance with the conditions of the permit shall be deemed compliance with any applicable requirement as of the date of permit issuance, provided that such applicable requirements are included and expressly identified in the permit. The Director may include in a permit determinations that other requirements specifically identified are not applicable. Any permit under this Chapter that does not expressly state that a permit shield exists shall not provide such a shield.
- B. Nothing in this Section or in any permit shall alter or affect the following:
1. The provisions of Section 303 of the Act (emergency orders), including the authority of the Administrator under that Section;
 2. The liability of an owner or operator of a source for any violation of applicable requirements prior to or at the time of permit issuance;
 3. The applicable requirements of the acid rain program, consistent with Section 408(a) of the Act;
 4. The ability of the Administrator or the Director to obtain information from a source pursuant to Section 114 of the Act, or any provision of state law;
 5. The authority of the Director to require compliance with new applicable requirements adopted after the permit is issued.
- C. In addition to the provisions of R18-2-321, a permit may be reopened by the Director and the permit shield revised when it is determined that standards or conditions in the permit are based on incorrect information provided by the applicant.

Historical Note

Emergency rule adopted effective September 17, 1991, pursuant to A.R.S. § 41-1026, valid for only 90 days (Supp. 91-3). Emergency rule re-adopted without change effective December 16, 1991, pursuant to A.R.S. § 41-1026, valid for only 90 days (Supp. 91-4). Emergency expired; text deleted (Supp. 93-1). New Section adopted effective November 15, 1993 (Supp. 93-4).

R18-2-326. Fees Related to Individual Permits

- A. Source Categories. The owner or operator of a source required to have an air quality permit from the Director shall pay the fees described in this Section unless authorized to operate under a general permit issued under Article 5. The fees are

based on a source being classified in one of the following three categories:

1. Class I Title V sources are those required or that elect to have a permit under R18-2-302(B)(1).
 2. Class II Title V sources are those required to have a permit under R18-2-302(B)(2) and for which either R18-2-302(B)(2)(a)(i) or (ii) applies.
 3. Class II Non-Title V sources are those required to have a permit under R18-2-302(B)(2) and for which neither R18-2-302(B)(2)(a)(i) nor (ii) applies.
- B. Fees for Permit Actions. The owner or operator of a Class I Title V source, Class II Title V source, or Class II Non-Title V source shall pay to the Director \$66 per hour, adjusted annually under subsection (H), for all permit processing time required for a billable permit action. Upon completion of permit processing activities other than issuance or denial of the permit or permit revision, the Director shall send notice of the decision to the applicant along with a final itemized bill. The maximum fee for any billable permit action for a non-Title V source is \$25,000. Except as provided in subsection (G), the Director shall not issue a permit or permit revision until the final bill is paid in full.
- C. Class I Title V Fees. The owner or operator of a Class I Title V source that has undergone initial startup by January 1 shall annually pay to the Director an administrative fee plus an emissions-based fee as follows:
1. The applicable administrative fee from the table below, as adjusted annually under subsection (H). The fee is due by March 31 or 60 days after the Director mails the invoice under subsection (F), whichever is later.

Class I Title V Source Category	Administrative Fee
Aerospace	\$12,900
Cement Plants	\$39,500
Combustion/Boilers	\$9,600
Compressor Stations	\$7,900
Electronics	\$12,700
Expandable Foam	\$9,100
Foundries	\$12,100
Landfills	\$9,900
Lime Plants	\$37,000
Copper & Nickel Mines	\$9,300
Gold Mines	\$9,300
Mobile Home Manufacturing	\$9,200
Paper Mills	\$12,700
Paper Coaters	\$9,600
Petroleum Products Terminal Facilities	\$14,100
Polymeric Fabric Coaters	\$12,700
Reinforced Plastics	\$9,600
Semiconductor Fabrication	\$16,700
Copper Smelters	\$39,500
Utilities - Natural Gas	\$10,200
Utilities - Fossil Fuel Except Natural Gas	\$20,200
Vitamin/Pharmaceutical Manufacturing	\$9,800
Wood Furniture	\$9,600
Others	\$9,900
Others with Continuous Emissions Monitoring	\$12,700

2. An emissions-based fee of \$11.75 per ton of actual emissions of all regulated pollutants emitted during the previous calendar year ending 12 months earlier. The fee is adjusted annually under subsection (d) and due by March 31 or 60 days after the Director mails the invoice under subsection (F), whichever is later.

a. For purposes of this Section, "actual emissions" means the quantity of all regulated pollutants emitted during the calendar year, as determined by the annual emissions inventory under R18-2-327.

b. For purposes of this Section, regulated pollutants consist of the following:

- i. Nitrogen oxides and any volatile organic compounds;
- ii. Conventional air pollutants, except carbon monoxide and ozone;
- iii. Any pollutant that is subject to any standard promulgated under Section 111 of the Act, including fluorides, sulfuric acid mist, hydrogen sulfide, total reduced sulfur, and reduced sulfur compounds; and
- iv. Any federally listed hazardous air pollutant.

c. For purposes of this Section, the following emissions of regulated pollutants are excluded from a source's actual emissions:

- i. Emissions of any regulated pollutant from the source in excess of 4,000 tons per year;
- ii. Emissions of any regulated pollutant already included in the actual emissions for the source, such as a federally listed hazardous air pollutant that is already accounted for as a VOC or as PM10;
- iii. Emissions from insignificant activities listed in the permit application for the source under R18-2-304(E)(8);
- iv. Fugitive emissions of PM10 from activities other than crushing, belt transfers, screening, or stacking; and
- v. Fugitive emissions of VOC from solution-extraction units.

d. The Director shall adjust the rate for emission-based fees every January 1, beginning on January 1, 2003, by multiplying \$11.75 by the Consumer Price Index (CPI) for the most recent year, and then dividing by the CPI for the year 2001. The Consumer Price Index for any year is the average of the Consumer Price Index for all-urban consumers published by the United States Department of Labor, as of the close of the 12-month period ending on August 31 of that year.

D. Class II Title V Fees. The owner or operator of a Class II Title V source that has undergone initial startup by January 1 shall pay the applicable administrative fee from the table below, adjusted under subsection (H), for that calendar year, and annually thereafter. The fee is due by March 31 or 60 days after the Director mails the invoice under subsection (F), whichever is later.

CLASS II Title V Source Category	Administrative Fee
Synthetic minor sources, except portable sources	Administrative fee from Class I Title V table for category
Stationary	\$5,000
Portables	\$5,000
Small Source	\$500

E. Class II Non-Title V Fees. The owner or operator of a Class II Non-Title V source that has undergone initial startup by January 1 shall pay the applicable inspection fee from the table below, adjusted under subsection (H), for that calendar year, and annually thereafter. The fee is due by March 31 or 60 days after the Director mails the invoice under subsection (F), whichever is later.

Class II Non-Title V Source Category	Inspection Fee
Stationary	\$3,250
Portables	\$3,250
Gasoline Service Stations	\$500

F. The Director shall mail the owner or operator of each source an invoice for all fees due under subsections (C), (D), or (E) by January 31.

G. Any person who receives a final itemized bill from the Director under this Section for a billable permit action may request an informal review of the hours billed and may pay the bill under protest. If the bill is paid under protest, the Director shall take final action on the permit or permit revision.

- 1. The request shall be made in writing, and received by the Director within 30 days of the date of the final bill. Unless the Director and person agree otherwise, the informal review shall take place within 30 days after the Director's receipt of the request. The Director shall arrange the date and location of the informal review with the person at least 10 business days before the informal review. The Director shall review whether the amounts of time billed are correct and reasonable for the tasks involved. The Director shall mail his or her decision on the informal review to the person within 10 business days after the informal review date.
- 2. The Director's decision after informal review shall become final unless, within 30 days after person's receipt of the informal review decision, the person requests a hearing under R18-1-202.

H. The Director shall adjust the hourly rate every January 1, to the nearest ten cents per hour, beginning on January 1, 2003, by multiplying \$66 by the Consumer Price Index (CPI) for the most recent year, and then dividing by the CPI for the year 2001. The Director shall adjust the administrative or inspection fees listed in subsections (C), (D), and (E) every January 1, to the nearest \$10, beginning on January 1, 2003, by multiplying the administrative or inspection fee by the Consumer Price Index (CPI) for the most recent year, and then dividing by the CPI for the year 2001. The Consumer Price Index for any year is the average of the Consumer Price Index for all-urban consumers published by the United States Department of Labor, as of the close of the 12-month period ending on August 31 of that year.

I. An applicant for a Class I or Class II permit or permit revision may request that the Director provide accelerated processing of the application by providing the Director written notice 60 days before filing the application. The request shall be accompanied by an initial fee of \$15,000. The fee is non-refundable to the extent of the Director's costs for accelerating the processing if the Director undertakes the accelerated processing described below:

- 1. If an applicant requests accelerated permit processing, the Director may, to the extent practicable, undertake to process the permit or permit revision in accordance with the following schedule:

- a. For applications for initial Class I and II permits under R18-2-302 or significant permit revisions under R18-2-320, the Director shall issue or deny the proposed permit or permit revision within 120 days after the Director determines that the application is complete.
 - b. For minor permit revisions under R18-2-319, the Director shall issue or deny the permit revision within 60 days after receiving a complete application.
2. At any time after an applicant requests accelerated permit processing, the Director may require additional advance payments based on the most recent estimate of additional costs.
 3. Upon completion of permit processing activities but before issuance or denial of the permit or permit revision, the Director shall send notice of the decision to the applicant along with a final bill. The maximum fee for any billable permit action for a non-Title V source is \$25,000. The final bill shall include all regular permit processing and other fees due, and, in addition, the difference between the cost of accelerating the permit application, including any costs incurred by the Director in contracting for, hiring, or supervising the work of outside consultants, and all advance payments submitted for accelerated processing. In the event all payments made exceed actual accelerated permit costs, the Director shall refund the excess advance payments. Nothing in this subsection affects the public participation requirements of R18-2-330, or EPA and affected state review as required under R18-2-307 or R18-2-319.
- J. Inactive Sources.** The owner or operator of a permitted source that has undergone initial startup but was shut down for the entire preceding calendar year shall pay 50% of the administrative or inspection fee required under subsection (C); (D), or (E). The owner or operator of a source claiming inactive status under this subsection shall submit a letter to the Director by December 15 of the year prior to the billing year. Termination of a permit does not relieve a source of any past fees due.
- K. Transition.**
1. Subsections (A) through (J) of this Section are effective January 1, 2002. The first administrative or inspection fees are due on March 31, 2002.
 2. Except as provided in subsection (b), all fees incurred after January 1, 2002, are payable in accordance with the rates contained in this Section.
 - a. Emission-based fees for calendar year 2000 shall be billed at \$11.75 per ton and be due March 31, 2002.
 - b. The hourly rates and maximum fees for a new permit or permit revision are those in effect when the application for the permit or revision is determined to be complete.
 - c. Fees accrued but not yet paid before the effective date of this Section remain as obligations to be paid to the Department.

Historical Note

Emergency rule adopted effective September 17, 1991, pursuant to A.R.S. § 41-1026, valid for only 90 days (Supp. 91-3). Emergency rule re-adopted without change effective December 16, 1991, pursuant to A.R.S. § 41-1026, valid for only 90 days (Supp. 91-4). Emergency expired; text deleted (Supp. 93-1). New Section adopted effective November 15, 1993 (Supp. 93-4). Amended by final rulemaking at 7 A.A.R. 5670, effective January 1, 2002 (Supp. 01-4).

R18-2-327. Annual Emissions Inventory Questionnaire

- A.** Every source subject to a permit requirement under this Chapter shall complete and submit to the Director an annual emissions inventory questionnaire. The questionnaire is due by March 31 or 90 days after the Director makes the inventory form available, whichever occurs later, and shall include emission information for the previous calendar year. These requirements apply whether or not a permit has been issued and whether or not a permit application has been filed.
- B.** The questionnaire shall be on a form provided by the Director and shall include the following information:
1. The source's name, description, mailing address, contact person and contact person phone number, and physical address and location, if different than the mailing address.
 2. Process information for the source, including design capacity, operations schedule, and emissions control devices, their description and efficiencies.
 3. The actual quantity of emissions from permitted emission points and fugitive emissions as provided in the permit, including documentation of the method of measurement, calculation, or estimation, determined pursuant to subsection (C), of the following regulated air pollutants:
 - a. Any single regulated air pollutant in a quantity greater than 1 ton or the amount listed for the pollutant in subsection (a) of the definition of "significant" in R18-2-101, whichever is less.
 - b. Any combination of regulated air pollutants in a quantity greater than 2 1/2 tons.
- C.** Actual quantities of emissions shall be determined using the following emission factors or data:
1. Whenever available, emissions estimates shall either be calculated from continuous emissions monitors certified pursuant to 40 CFR 75, Subpart C and referenced appendices, or data quality assured pursuant to Appendix F of 40 CFR 60.
 2. When sufficient data pursuant to subsection (C)(1) is not available, emissions estimates shall be calculated from data from source performance tests conducted pursuant to R18-2-312 in the calendar year being reported or, when not available, conducted in the most recent calendar year representing the operating conditions of the year being reported.
 3. When sufficient data pursuant to subsection (C)(1) or (C)(2) is not available, emissions estimates shall be calculated using emissions factors from EPA Publication No. AP-42 "Compilation of Air Pollutant Emission Factors", Volume I: Stationary Point and Area Sources, Fifth Edition, 1995, U.S. Environmental Protection Agency, Research Triangle Park, NC (and no future editions) which is incorporated by reference and is on file with the Department of Environmental Quality and the Office of Secretary of State. AP-42 can be obtained from the Superintendent of Documents, Government Printing Office, Washington, D.C. 20402, telephone (202) 783-3238, or by downloading the document from the EPA Technology Transfer Network, computer modem number (919) 541-5742, setting 8-N-1, VT100, or ANSI.
 4. When sufficient data pursuant to subsections (C)(1) through (C)(3) is not available, emissions estimates shall be calculated from material balance using engineering knowledge of process.
 5. When sufficient data pursuant to subsections (C)(1) through (C)(4) is not available, emissions estimates shall be calculated by equivalent methods approved by the Director. The Director shall only approve methods that

- are demonstrated as accurate and reliable as the applicable method in subsections (C)(1) through (4).
- D. Actual quantities of emissions calculated under subsection (C) shall be determined on the basis of actual operating hours, production rates, in-place process control equipment, operational process control data, and types of materials processed, stored, or combusted.
- E. An amendment to an annual emission inventory questionnaire, containing the documentation required by subsection (B)(3), shall be submitted to the Director by any source whenever it discovers or receives notice, within 2 years of the original submittal, that incorrect or insufficient information was submitted to the Director by a previous questionnaire. If the incorrect or insufficient information resulted in an incorrect annual emissions fee, the Director shall require that additional payment be made or shall apply an amount as a credit to a future annual emissions fee. The submittal of an amendment under this subsection shall not subject the owner or operator to an enforcement action or a civil or criminal penalty if the original submittal of incorrect or insufficient information was due to reasonable cause and not wilful neglect.
- F. The Director may require submittal of supplemental emissions inventory questionnaires for air contaminants pursuant to A.R.S. §§ 49-422, 49-424, and 49-426.03 through 49-426.08.
- c. An estimate of emissions related to the breakdown or upset;
- d. A compliance schedule with a date of final compliance and interim dates as appropriate;
- e. A detailed analysis of the economic and social costs and benefits of achieving compliance with the requirement for which the variance is sought, if the petition is based on subsection (A)(2)(b).
2. If the issuance of the conditional order requires a public hearing pursuant to R18-2-330, the Director shall set the hearing date within 30 days after the filing of the petition and the hearing shall be held within 60 days after the filing of the petition.
3. Notice of the filing of a petition for a conditional order and of the hearing date on said petition shall be published in the manner provided in A.R.S. § 49-444 and R18-2-330.
- C. Decisions on petitions for a conditional order shall be made as follows:
1. For any conditional order that requires a revision to the SIP, the Director shall comply with the requirements contained in 40 CFR 51, Subpart F.
2. For any other conditional order, the Director shall grant or deny the petition with such terms and conditions as are listed in subsection (E)(2) within 30 days after the conclusion of any required hearing, or, if no hearing is held, within 60 days after the filing of the petition.
- D. A fee to cover the costs of processing conditional orders may be charged by the Director prior to issuance consistent with R18-2-326(I) or (J). The fee shall be deposited in the permit administration fund established in A.R.S. § 49-455.
- E. The terms of a conditional order or its renewal shall conform to the following:

Historical Note

Emergency rule adopted effective September 17, 1991, pursuant to A.R.S. § 41-1026, valid for only 90 days (Supp. 91-3); Emergency rule re-adopted without change effective December 16, 1991, pursuant to A.R.S. § 41-1026, valid for only 90 days (Supp. 91-4). Emergency expired; text deleted (Supp. 93-1). New Section adopted effective November 15, 1993 (Supp. 93-4). Amended effective December 7, 1995 (Supp. 95-4).

R18-2-328. Conditional Orders

- A. The Director may grant to any person a conditional order for each air pollution source which allows such person to vary from any provision of A.R.S. Title 49, Chapter 3, Article 2, or this Chapter, for any non-federally enforceable requirement of a permit issued pursuant to this Chapter if the Director makes each of the following findings:
1. Issuance of the conditional order will not endanger public health or the environment, impede attainment or maintenance of the national ambient air quality standards, or constitute a violation of the Act; and
2. Either of the following is true:
- a. There has been a breakdown of equipment or upset of operations beyond the control of the petitioner which causes the source to be out of compliance with the requirements of this Chapter; the source was in compliance with the requirements of this Chapter before the breakdown or upset, and the breakdown or upset may be corrected within a reasonable time;
- b. There is no reasonable relationship between the economic and social cost of, and benefits to be obtained from, achieving compliance.
- B. The following procedures shall apply to a person seeking a conditional order:
1. The person shall file a petition for a conditional order with the Director. The petition shall contain at a minimum:
- a. A description of the breakdown or upset;
- b. A description of corrective action being undertaken to bring the source back into compliance;
3. A holder of a conditional order may petition the Director to renew the order. The total term of the initial period and all renewals shall not exceed 3 years from the date of initial issuance of the order. Petitions for renewal may be filed at any time not more than 60 days nor less than 30 days prior to the expiration of the order. The Director, within 30 days of receipt of a petition, shall renew the

conditional order for 1 year if the petitioner is in compliance and conforming with the terms and conditions imposed. The Director may refuse to renew the conditional order if, after a public hearing held within 30 days of receipt of a petition, the Director finds that the petitioner is not in compliance and conforming with the terms and conditions of the conditional order. If, after a period of 3 years from the date of original issuance, the petitioner is not in compliance and conforming with the terms and conditions, the Director may renew a conditional order for a total term of 2 additional years only if the Director finds that failure to comply and conform is due to conditions beyond the control of such petitioner.

4. If the Director amends or adopts any rule imposing conditions on the operation of an air pollution source which have become effective as to the source by reason of the action of the Director or otherwise, and which require the implementation of control strategies necessitating the installation of additional or different air pollution control equipment, the Director may renew a conditional order for an additional term. The term of the renewal shall be governed by the preceding subsections of this Section, except that the total term of the renewal shall not exceed 2 years.
5. A conditional order issued by the Director shall be effective when issued unless:
 - a. The conditional order varies from the requirements of the applicable implementation plan, in which case the conditional order shall be submitted to the Administrator as a revision to the applicable implementation plan pursuant to Section 110(I) of the Act and shall become effective upon approval by the Administrator.
 - b. The conditional order varies from the requirements of a permit issued for a facility that is required to obtain a permit pursuant to Title V of the Act, in which case the conditional order shall be submitted to the Administrator if required by Section 505 of the Act and shall be effective at the end of the review period specified in such section, unless objected to within such period by the Administrator.
- F. Violation of the terms and conditions of the conditional order shall subject the source to suspension or revocation of the conditional order in accordance with A.R.S. § 49-441.

Historical Note

Adopted effective November 15, 1993 (Supp. 93-4).

R18-2-329. Permits Containing the Terms and Conditions of Federal Delayed Compliance Orders (DCO) or Consent Decrees

- A. The terms and conditions of either a delayed compliance order (DCO) or consent decree shall be incorporated into a permit through a permit revision. In the event the permit expires prior to the expiration of the DCO or consent decree, the DCO or consent decree shall be incorporated into any permit renewal.
- B. The owner or operator of a source subject to a DCO or consent decree shall submit to the Director a quarterly report of the status of the source and construction progress and copies of any reports to the Administrator required under the order or decree. The Director may require additional reporting requirements and conditions in permits issued under this Article.
- C. For the purpose of this Chapter, sources subject to a consent decree issued by a federal court shall meet the same requirements as those subject to a DCO.

Historical Note

Adopted effective November 15, 1993 (Supp. 93-4).

R18-2-330. Public Participation

- A. The Director shall provide public notice, an opportunity for public comment, and an opportunity for a hearing before taking any of the following actions:
 1. A permit issuance or renewal of a permit,
 2. A significant permit revision,
 3. Revocation and reissuance or reopening of a permit,
 4. Any conditional orders pursuant to R18-2-328,
 5. Granting a variance from a general permit pursuant to A.R.S. § 49-426.06(E) and R18-2-507.
- B. The Director shall provide public notice of receipt of complete applications for permits to construct or make a major modification to major sources by publishing a notice in a newspaper of general circulation in the county where the source is or will be located.
- C. The Director shall provide the notice required pursuant to subsection (A) as follows:
 1. The Director shall publish the notice once each week for 2 consecutive weeks in 2 newspapers of general circulation in the county where the source is or will be located.
 2. The Director shall mail a copy of the notice to persons on a mailing list developed by the Director consisting of those persons who have requested in writing to be placed on such a mailing list.
- D. The notice required by subsection (C) shall include the following:
 1. Identification of the affected facility;
 2. Name and address of the permittee or applicant;
 3. Name and address of the permitting authority processing the permit action;
 4. The activity or activities involved in the permit action;
 5. The emissions change involved in any permit revisions;
 6. The air contaminants to be emitted;
 7. If applicable, that a notice of confidentiality has been filed under R18-2-305;
 8. If applicable, that the source has submitted a risk management analysis pursuant to A.R.S. § 49-426.06;
 9. A statement that any person may submit written comments, or a written request for a public hearing, or both, on the proposed permit action, along with the deadline for such requests or comments;
 10. The name, address, and telephone number of a person from the Department from whom additional information may be obtained;
 11. Locations where copies of the permit or permit revision application, the proposed permit, and all other materials available to the Director that are relevant to the permit decision may be reviewed, including the closest Department office, and the times at which they shall be available for public inspection.
- E. The Director shall hold a public hearing to receive comments on petitions for conditional orders which would vary from requirements of the applicable implementation plan. For all other actions involving a proposed permit, the Director shall hold a public hearing only upon written request. If a public hearing is requested, the Director shall schedule the hearing and publish notice as described in A.R.S. § 49-444 and subsection (D). The Director shall give notice of any public hearing at least 30 days in advance of the hearing.
- F. At the time the Director publishes the 1st notice under subsection (C)(1), the applicant shall post a notice containing the information required in subsection (D) at the site where the source is or may be located. Consistent with federal, state, and local law, the posting shall be prominently placed at a location under the applicant's legal control, adjacent to the nearest public roadway, and visible to the public using the public road-

way. If a public hearing is to be held, the applicant shall place an additional posting providing notice of the hearing. Any posting shall be maintained until the public comment period is closed.

- G. The Director shall provide at least 30 days from the date of its 1st notice for public comment. The Director shall keep a record of the commenters and of the issues raised during the public participation process and shall prepare written responses to all comments received. At the time a final decision is made, the record and copies of the Director's responses shall be made available to the applicant and all commenters.

Historical Note

Adopted effective November 15, 1993 (Supp. 93-4).

R18-2-331. Material Permit Conditions

- A. For the purposes of A.R.S. §§ 49-464(G) and 49-514(G), a "material permit condition" shall mean a condition which satisfies all of the following:
1. The condition is in a permit or permit revision issued by the Director or a control officer after November 15, 1993.
 2. The condition is identified within the permit as a material permit condition.
 3. The condition is 1 of the following:
 - a. An enforceable emission standard imposed to avoid classification as a major modification or major source or to avoid triggering any other applicable requirement;
 - b. A requirement to install, operate, or maintain a maximum achievable control technology or hazardous air pollutant reasonably available control technology required pursuant to A.R.S. § 49-426.06;
 - c. A requirement for the installation or certification of a monitoring device;
 - d. A requirement for the installation of air pollution control equipment;
 - e. A requirement for the operation of air pollution control equipment;
 - f. An opacity standard required by Section 111 or Title I, Part C or D of the Act.
 4. Violation of the condition is not covered by A.R.S. § 49-464(A) through (F), or (H) through (J) or A.R.S. § 49-514(A) through (F), or (H) through (J).
- B. For the purposes of subsections (A)(3)(c), (d), and (e), a permit condition shall not be material where the failure to comply resulted from circumstances which were outside the control of the source. As used in this Section, "circumstances outside the control of the source" shall mean circumstances where the violation resulted from a sudden and unavoidable breakdown of the process or the control equipment, resulted from unavoidable conditions during a start up or shut down or resulted from upset of operations.
- C. For purposes of this Section, the term "emission standard" shall have the meaning specified in A.R.S. §§ 49-464(U) and 49-514(T).

Historical Note

Adopted effective November 15, 1993 (Supp. 93-4).

Amended effective June 4, 1998 (Supp. 98-2).

R18-2-332. Stack Height Limitation

- A. The limitations set forth herein shall not apply to stacks or dispersion techniques used by the owner or operator prior to December 31, 1970, for which the owner or operator had:
1. Begun, or caused to begin, a continuous program of physical on-site construction of the stack;
 2. Entered into building agreements or contractual obligations, which could not be cancelled or modified without

substantial loss to the owner or operator, to undertake a program of construction of the stack to be completed in a reasonable time; or

3. Coal-fired steam electric generating units, subject to the provisions of Section 118 of the Act which commenced operation before July 1, 1975, with stacks constructed under a construction contract awarded before February 8, 1974.
- B. GEP stack height is calculated as the greater of the following 4 numbers in subsections (1) through (4):
1. 213.25 feet (65 meters);
 2. For stacks in existence on January 12, 1979, and for which the owner or operator had obtained all applicable preconstruction permits or approvals required under 40 CFR Parts 51 and 52 and R18-2-403, $H_g = 2.5H$;
 3. For all other stacks, $H_g = H + 1.5L$, where
 - H_g = good engineering practice stack height, measured from the ground-level elevation at the base of the stack;
 - H = height of nearby structure measured from the ground-level elevation at the base of the stack;
 - L = lesser dimension (height or projected width) of nearby structure;
- provided that the EPA, the Director, or local control agency may require the use of a field study or fluid model to verify GEP stack height for the source; or
4. The height demonstrated by a fluid model or a field study approved by the reviewing agency, which ensures that the emissions from a stack do not result in excessive concentrations of any air pollutant as a result of atmospheric downwash, wakes, or eddy effects created by the source itself, nearby structures, or nearby terrain obstacles;
 5. For a specific structure or terrain feature, "nearby" shall be:
 - a. For purposes of applying the formulae in subsections (B)(2) and (3), that distance up to 5 times the lesser of the height or the width dimension of a structure but not greater than 0.8 km (1/2 mile).
 - b. For conducting demonstrations under subsection (B)(4), means not greater than 0.8 km (1/2 mile). An exception is that the portion of a terrain feature may be considered to be nearby which falls within a distance of up to 10 times the maximum height ($H+$) of the feature, not to exceed 2 miles if such feature achieved a height ($H+$) 0.8 km from the stack. The height shall be at least 40% of the GEP stack height determined by the formula provided in subsection (B)(3), or 85 feet (26 meters), whichever is greater, as measured from the ground-level elevation at the base of the stack.
 6. "Excessive concentrations" means, for the purpose of determining good engineering practice stack height under subsection (B)(4):
 - a. For sources seeking credit for stack height exceeding that established under subsections (B)(2) and (3), a maximum ground-level concentration due to emissions from a stack due in whole or in part to downwash, wakes, and eddy effects produced by nearby structures or nearby terrain features which individually is at least 40% in excess of the maximum concentration experienced in the absence of such downwash, wakes, or eddy effects and which contributes to a total concentration due to emissions from all sources that is greater than an ambient air quality standard. For sources subject to the requirements for permits or permit revisions under Article 4

- of this Chapter, an excessive concentration alternatively means a maximum ground-level concentration due to emissions from a stack due in whole or part to downwash, wakes or eddy effects produced by nearby structures or nearby terrain features which individually is at least 40% in excess of the maximum concentration experienced in the absence of such downwash, wakes, or eddy effects and greater than the applicable maximum allowable increase contained in R18-2-218. The allowable emission rate to be used in making demonstrations under subsection (B)(4) shall be prescribed by the new source performance standard which is applicable to the source category unless the owner or operator demonstrates that this emission rate is infeasible. Where such demonstrations are approved by the Director, an alternative emission rate shall be established in consultation with the source owner or operator;
- b. For sources seeking credit after October 11, 1983, for increases in existing stack heights up to the heights established under subsections (B)(2) and (3), either:
 - i. A maximum ground-level concentration due in whole or in part to downwash, wakes, or eddy effects as provided in subsection (B)(6)(a), except that emission rate specified by any applicable SIP shall be used; or
 - ii. The actual presence of a local nuisance caused by the existing stack, as determined by the Director; and
 - c. For sources seeking credit after January 12, 1979, for a stack height determined under subsections (B)(2) and (3), where the Director requires the use of a field study or fluid model to verify GEP stack height, for sources seeking stack height credit after November 9, 1984, based on the aerodynamic influence of cooling towers, and for sources seeking stack height credit after December 31, 1970, based on the aerodynamic influence of structures not adequately represented by the equations in subsections (B)(2) and (3), a maximum ground-level concentration due in whole or in part to downwash, wakes, or eddy effects that is at least 40% in excess of the maximum concentration experienced in the absence of such downwash, wakes, or eddy effects.
- C. The degree of emission limitation required of any source after the respective date given in subsection (A) above for control of any pollutant shall not be affected by so much of any source's stack height that exceeds good engineering practice or by any other dispersion technique.
 - D. The good engineering practice (GEP) stack height for any source seeking credit because of plume impaction which results in concentrations in violation of national ambient air quality standards or applicable maximum allowable increases under R18-2-218 can be adjusted by determining the stack height necessary to predict the same maximum air pollutant concentration on any elevated terrain feature as the maximum concentration associated with the emission limit which results from modelling the source using the GEP stack height as determined herein and assuming the elevated terrain features to be equal in elevation to the GEP stack height. If this adjusted GEP stack height is greater than stack height the source proposes to use, the source's emission limitation and air quality impact shall be determined using the proposed stack height and the actual terrain heights.
 - E. Before the Director issues a permit or permit revision under this Article to a source based on a good engineering practice stack height that exceeds the height allowed by subsection (B), the Director shall notify the public of the availability of the demonstration study and provide opportunity for a public hearing in accordance with the requirements of R18-1-402.

Historical Note

Adopted effective November 15, 1993 (Supp. 93-4).

R18-2-333. Acid Rain

- A. 40 CFR 72, 74, 75, and 76 and all accompanying appendices, as of July 1, 1999, (and no future editions or amendments) are incorporated by reference. These standards are on file with the Office of the Secretary of State and the Department and shall be applied by the Department.
- B. When used in 40 CFR 72, 74, 75, or 76, "Permitting Authority" means the Arizona Department of Environmental Quality and "Administrator" means the Administrator of the United States Environmental Protection Agency.
- C. If the provisions or requirements of the regulations incorporated in this Section conflict with any of the remaining portions of this Title, the regulations incorporated in this Section shall apply and take precedence.

Historical Note

Adopted effective October 7, 1994 (Supp. 94-4).

Amended effective December 7, 1995 (Supp. 95-4).

Amended effective December 4, 1997 (Supp. 97-4).

Amended by final rulemaking at 5 A.A.R. 3221, effective

August 12, 1999 (Supp. 99-3). Amended by final rule-

making at 6 A.A.R. 4170, effective October 11, 2000

(Supp. 00-4).

**ARTICLE 4. PERMIT REQUIREMENTS FOR NEW
MAJOR SOURCES AND MAJOR MODIFICATIONS TO
EXISTING MAJOR SOURCES**

R18-2-401. Definitions

In addition to the definitions contained in Article 1 of this Chapter and A.R.S. § 49-401.01, the following definitions apply to this Article:

1. "Adverse impact on visibility" means visibility impairment that interferes with the management, protection, preservation, or enjoyment of the visitor's visual experience of a Class I area, as determined according to R18-2-410.
2. "Categorical sources" means the following classes of sources:
 - a. Coal cleaning plants with thermal dryers;
 - b. Kraft pulp mills;
 - c. Portland cement plants;
 - d. Primary zinc smelters;
 - e. Iron and steel mills;
 - f. Primary aluminum ore reduction plants;
 - g. Primary copper smelters;
 - h. Municipal incinerators capable of charging more than 50 tons of refuse per day;
 - i. Hydrofluoric, sulfuric, or nitric acid plants;
 - j. Petroleum refineries;
 - k. Lime plants;
 - l. Phosphate rock processing plants;
 - m. Coke oven batteries;
 - n. Sulfur recovery plants;
 - o. Carbon black plants using the furnace process;
 - p. Primary lead smelters;
 - q. Fuel conversion plants;
 - r. Sintering plants;
 - s. Secondary metal production plants;

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- t. Chemical process plants;
 - u. Fossil-fuel boilers, combinations thereof, totaling more than 250 million Btu's per hour heat input;
 - v. Petroleum storage and transfer units with a total storage capacity more than 300,000 barrels;
 - w. Taconite preprocessing plants;
 - x. Glass fiber processing plants;
 - y. Charcoal production plants;
 - z. Fossil-fuel-fired steam electric plants and combined cycle gas turbines of more than 250 million Btu's per hour heat input.
3. "Complete" means, in reference to an application for a permit or permit revision, that the application contains all the information necessary for processing the application.
 4. "Dispersion technique" means any technique that attempts to affect the concentration of a pollutant in the ambient air by any of the following:
 - a. Using that portion of a stack that exceeds good engineering practice stack height;
 - b. Varying the rate of emission of a pollutant according to atmospheric conditions or ambient concentrations of that pollutant; or
 - c. Increasing final exhaust gas plume rise by manipulating source process parameters, exhaust gas parameters, stack parameters, or combining exhaust gases from several existing stacks into 1 stack; or other selective handling of exhaust gas streams so as to increase the exhaust gas plume rise. This shall not include any of the following:
 - i. The reheating of a gas stream, following use of a pollution control system, for the purpose of returning the gas to the temperature at which it was originally discharged from the facility generating the gas stream.
 - ii. The merging of exhaust gas streams under any of the following conditions:
 - (1) The source owner or operator demonstrates that the facility was originally designed and constructed with the merged gas streams;
 - (2) The merging is part of a change in operation at the facility that includes the installation of pollution controls and is accompanied by a net reduction in the allowable emissions of a pollutant, applying only to the emission limitation for that pollutant; or
 - iii. Smoke management in agricultural or silvicultural prescribed burning programs.
 - iv. Episodic restrictions on residential woodburning and open burning.
 - v. Techniques that increase final exhaust gas plume rise if the resulting allowable emissions of sulfur dioxide from the facility do not exceed 5,000 tons per year.
 5. "High terrain" means any area having an elevation of 900 feet or more above the base of the stack of a source.
 6. "Innovative control technology" means any system of air pollution control that has not been adequately demonstrated in practice but would have a substantial likelihood of achieving greater continuous emissions reduction than any control system in current practice, or of achieving at least comparable reductions at lower cost in terms of energy, economics, or nonair quality environmental impacts.
 7. "Low terrain" means any area other than high terrain.
 8. "Lowest achievable emission rate" (LAER) means, for any source, the more stringent rate of emissions based on 1 of the following:
 - a. The most stringent emissions limitation that is contained in the SIP of any state for the class or category of stationary source, unless the owner or operator of the proposed stationary source demonstrates that the limitations are not achievable; or,
 - b. The most stringent emissions limitation that is achieved in practice by the class or category of stationary source. This limitation, when applied to a modification, means the lowest achievable emissions rate for the new or modified emissions units within the stationary source. In no event shall the application of this term permit a proposed new or modified stationary source to emit any pollutant in excess of the amount allowable under applicable standards of performance in Articles 9 and 11 of this Chapter.
 9. "Major source" means:
 - a. Any stationary source located in a nonattainment area that emits, or has the potential to emit, 100 tons per year or more of any conventional air pollutant, except as follows:

Pollutant Emitted	Nonattainment Pollutant and Classification	Quantity Threshold tons/year or more
Carbon Monoxide (CO)	CO, Serious, with stationary sources as more than 25% of source inventory	50
Volatile Organic Compounds (VOC)	Ozone, Serious	50
VOC	Ozone, Severe	25
PM10	PM10, Serious	70
NOx	Ozone, Serious	50
NOx	Ozone, Severe	25
or		
 - b. Any stationary source located in an attainment or unclassifiable area that emits, or has the potential to emit, 100 tons per year or more of any conventional air pollutant if the source is classified as a Categorical Source, or 250 tons per year or more of any pollutant subject to regulation under the Act if the source is not classified as a Categorical Source;
 - c. Any change to a minor source, except for VOC or NOx emission increases at minor sources in serious or severe ozone nonattainment areas, that would increase its emissions to the qualifying levels in subsections (a) or (b);
 - d. Any change in VOC or NOx at a minor source in serious or severe ozone nonattainment areas that would be "significant" under subsection R18-2-405(B) and that would increase its emissions to the qualifying levels in subsection (a);
 - e. Any stationary source that emits, or has the potential to emit, 5 or more tons of lead per year;
 - f. Any source classified as major undergoing modification that meets the definition of reconstruction;
 - g. A major source that is major for VOC shall be considered major for ozone; or

- h. A major source that is major for oxides of nitrogen shall be considered major for ozone in nonattainment areas classified as marginal, moderate, serious, or severe.
- 10. "Reconstruction" of sources located in nonattainment areas shall be presumed to have taken place if the fixed capital cost of the new components exceeds 50% of the fixed capital cost of a comparable entirely new stationary source, as determined in accordance with the provisions of 40 CFR 60.15(f)(1) through (3).
- 11. "Resource recovery project" means any facility at which solid waste is processed for the purpose of extracting, converting to energy, or otherwise separating and preparing solid waste for reuse. Only energy conversion facilities that utilize solid waste that provides more than 50% of the heat input shall be considered a resource recovery project under this Article.
- 12. "Significance levels" means the following ambient concentrations for the enumerated pollutants:

Pollutant	Averaging Time				
	Annual	24-Hour	8-Hour	3-Hour	1-Hour
SO ₂	1 µg/m ³	5 µg/m ³		25 µg/m ³	
NO ₂	1 µg/m ³				
CO			0.5 mg/m ³		2 µg/m ³
PM ₁₀	1 µg/m ³	5 µg/m ³			

Except for the annual pollutant concentrations, exceedance of significance levels shall be deemed to occur when the ambient concentration of the above pollutant is exceeded more than once per year at any one location. If the concentration occurs at a specific location and at a time when Arizona ambient air quality standards for the pollutant are not violated, the significance level does not apply.

Historical Note

Adopted effective May 14, 1979 (Supp. 79-1). Amended effective October 2, 1979 (Supp. 79-5). Former Section R9-3-401 renumbered without change as Section R18-2-401 (Supp. 87-3). Section R18-2-401 renumbered to R18-2-601. New Section R18-2-401 adopted effective November 15, 1993 (Supp. 93-4). Amended by final rule-making at 5 A.A.R. 4074, effective September 22, 1999 (Supp. 99-3). Typographical error corrected in R18-2-401(9)(a) (Supp. 00-4).

R18-2-402. General

- A. No person shall commence construction of a new major source or the major modification of a source without first obtaining a permit or a permit revision from the Director.
- B. An application for a permit or permit revision under this Article shall not be considered complete unless the application demonstrates that:
 - 1. The requirements in subsection (C) are met;
 - 2. The more stringent of the applicable new source performance standards in Article 9 of this Chapter or the existing source performance standards in Article 7 of this Chapter are applied to the proposed new major source or major modification of a major source;
 - 3. The visibility requirements contained in R18-2-410 are satisfied;
 - 4. All applicable provisions of Article 3 of this Chapter are met;
 - 5. The new major source or major modification will be in compliance with whatever emission limitation, design, equipment, work practice or operational standard, or

combination thereof is applicable to the source or modification. The degree of emission limitation required for control of any pollutant under this Article shall not be affected in any manner by:

- a. Stack height in excess of GEP stack height except as provided in R18-2-332; or
- b. Any other dispersion technique, unless implemented prior to December 31, 1970;
- 6. The new major source or major modification will not exceed the applicable standards for hazardous air pollutants contained in this Chapter;
- 7. The new major source or major modification will not exceed the limitations, if applicable, on emission from nonpoint sources contained in Article 6 of this Chapter;
- 8. A stationary source that will emit 5 or more tons of lead per year will not violate the ambient air quality standards for lead contained in R18-2-206;
- 9. The new major source or major modification will not have an adverse impact on visibility, as determined according to R18-2-410.
- C. Except for assessing air quality impacts within Class 1 areas, the air impact analysis required to be conducted as part of a permit application shall initially consider only the geographical area located within a 50 kilometer radius from the point of greatest emissions for the new major source or major modification. The Director, on his own initiative or upon receipt of written notice from any person shall have the right at any time to request an enlargement of the geographical area for which an air quality impact analysis is to be performed by giving the person applying for the permit or permit revision written notice thereof, specifying the enlarged radius to be so considered. In performing an air impact analysis for any geographical area with a radius of more than 50 kilometers, the person applying for the permit or permit revision may use monitoring or modeling data obtained from major sources having comparable emissions or having emissions which are capable of being accurately used in such demonstration, and which are subjected to terrain and atmospheric stability conditions which are comparable or which may be extrapolated with reasonable accuracy for use in such demonstration.
- D. Unless the requirement has been satisfied pursuant to Article 3 of this Chapter, the Director shall comply with following requirements:
 - 1. Within 60 days after receipt of an application for a permit or permit revision subject to this Article, or any addition to such application, the Director shall advise the applicant of any deficiency. The date of receipt of the application shall be, for the purpose of this Section, the date on which the Director received all required information. The permit application shall not be deemed complete if the Director fails to meet the requirements of this subsection.
 - 2. A copy of any notice required by R18-2-330 shall be sent to the permit applicant, to the Administrator, and to the following officials and agencies having cognizance over the location where the proposed major source or major modification would occur:
 - a. The air pollution control officer, if one exists, for the county wherein the proposed or existing source that is the subject of the permit or permit revision application is located;
 - b. The county manager for the county wherein the proposed or existing source that is the subject of the permit or permit revision application is located;
 - c. The city or town managers of the city or town which contains, and any city or town the boundaries of which are within 5 miles of, the location of the pro-

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- posed or existing source that is the subject of the permit or permit revision application;
- d. Any regional land use planning agency with authority for land use planning in the area where the proposed or existing source that is the subject of the permit or permit revision application is located; and
 - e. Any state, Federal Land Manager, or Indian governing body whose lands may be affected by emissions from the proposed source or modification.
3. The Director shall take final action on the application within 1 year of the proper filing of the completed application. The Director shall notify the applicant in writing of his approval or denial.
 4. The Director shall terminate a permit or permit revision issued under this Article if the proposed construction or major modification is not begun within 18 months of issuance or, if during the construction or major modification, work is suspended for more than 18 months.

Historical Note

Amended effective August 6, 1976 (Supp. 76-4). Former Section R9-3-402 repealed, new Section R9-3-402 adopted effective May 14, 1979 (Supp. 79-1). Amended and adopted by reference Open Burning Guidelines for Air Pollution Control effective September 22, 1983 (Supp. 83-5). Former Section R9-3-402 renumbered without change as Section R18-2-402 (Supp. 87-3). Section R18-2-402 renumbered to R18-2-602, new Section R18-2-402 adopted effective November 15, 1993 (Supp. 93-4).

R18-2-403. Permits for Sources Located in Nonattainment Areas

- A. Except as provided in subsections (C) through (G) below, no permit or permit revision shall be issued under this Article to a person proposing to construct a new major source or make a major modification to a source located in any nonattainment area for the pollutant(s) for which the source is classified as a major source or the modification is classified as a major modification unless:
1. The person demonstrates that the new major source or the major modification will meet an emission limitation which is the lowest achievable emission rate (LAER) for that source for that specific pollutant(s). In determining lowest achievable emission rate for a reconstructed stationary source, the provisions of 40 CFR 60.15(f)(4) shall be taken into account in assessing whether a new source performance standard is applicable to such stationary source.
 2. The person demonstrates that all existing major sources owned or operated by that person (or any entity controlling, controlled by, or under common control with that person) in the state are in compliance with, or on a schedule of compliance for, all conditions contained in permits of each of the sources and all other applicable emission limitations and standards under the Act and this Chapter.
 3. The person demonstrates that emission reductions for the specific pollutant(s) from source(s) in existence in the allowable offset area of the new major source or major modification (whether or not under the same ownership) meet the offset and net air quality benefit requirements of R18-2-404.
- B. No permit or permit revision under this Article shall be issued to a person proposing to construct a new major source or make a major modification to a major source located in a nonattainment area unless:

1. The person performs an analysis of alternative sites, sizes, production processes, and environmental control techniques for such new major source or major modification; and
 2. The Director determines that the analysis demonstrates that the benefits of the new major source or major modification significantly outweigh the environmental and social costs imposed as a result of its location, construction, or modification.
- C. At such time that a particular source or modification becomes a major stationary source or major modification solely by virtue of a relaxation in any enforceable limitation which was established after August 7, 1980, on the capacity of the source or modification otherwise to emit a pollutant, such as restriction on hours of operation, then the requirements of this Section shall apply to the source or modification as though construction had not yet commenced on the source or modification.
- D. Secondary emissions shall not be considered in determining the potential to emit of a new source or modification and therefore whether the new source or modification is major. However, if a new source or modification is subject to this Section on the basis of its direct emissions, a permit or permit revision under this Article to construct the new source or modification shall be denied unless the conditions specified in subsections (A)(1) and (2) are met for reasonably quantifiable secondary emissions caused by the new source or modification.
- E. A permit to construct a new source or modification shall be denied unless the conditions specified in subsections (A)(1), (2), and (3) are met for fugitive emissions caused by the new source or modification. However, these conditions shall not apply to a new major source or major modification that would be a major source or major modification only if fugitive emissions, to the extent quantifiable, are considered in calculating the potential emissions of the source or modification, and the source is not either a categorical source or belongs to the category of sources for which New Source Performance Standards under 40 CFR 60 or National Emission Standards for Hazardous Air Pollutants under 40 CFR 61 were promulgated by the Administrator prior to August 7, 1980.
- F. The requirements of subsection (A)(3) shall not apply to temporary emission sources, such as pilot plants and portable sources, which are only temporarily located in the nonattainment area, are otherwise regulated by a permit, and are in compliance with the conditions of that permit.
- G. A decrease in actual emissions shall be considered in determining the potential of a new source or modification to emit only to the extent that the Director has not relied on it in issuing any permit or permit revision under this Article or the state has not relied on it in demonstrating attainment or reasonable further progress.
- H. Within 30 days of the issuance of any permit under this Section, the Director shall submit control technology information from the permit to the Administrator for the purposes listed in Section 173(d) of the Act.

Historical Note

Former Section R9-3-403 repealed, new Section R9-3-403 adopted effective May 14, 1979 (Supp. 79-1). Former Section R9-3-403 renumbered without change as Section R18-2-403 (Supp. 87-3). Section R18-2-403 renumbered to R18-2-603, new Section R18-2-403 adopted effective November 15, 1993 (Supp. 93-4).

R18-2-404. Offset and Net Air Quality Benefit Standards

- A. Increased emissions by a major source or major modification subject to this Article shall be offset by reductions in the emis-

- sions of each pollutant for which the area has been designated as nonattainment and for which the source or modification is classified as major. The offset may be obtained by reductions in emissions from the source or modification or from any other source in the allowable offset area. Credit for an emissions offset can be used only if it has not been relied upon in demonstrating attainment or reasonable further progress and if it has not been relied upon previously in issuing a permit or permit revision under this Article under R18-2-402 and R18-2-403 or is not otherwise required under this Chapter or under any provision of the SIP.
- B.** An offset shall not be sufficient unless reductions of total emissions for the particular pollutant for which the offset is required will be:
1. Obtained from sources within the allowable offset area;
 2. Contemporaneous with the operation of the new major source or major modification;
 3. Less than the baseline of the total emissions for that pollutant, except in ozone nonattainment areas classified as moderate, serious, or severe; and
 4. Sufficient to demonstrate that emissions from the new major source or major modification, together with the offset, will result in reasonable further progress for that pollutant.
- C.** In ozone nonattainment areas classified as marginal, total emissions of VOC and oxides of nitrogen from other sources shall offset those proposed or permitted from the major source or major modification by a ratio of at least 1.10 to 1. In ozone nonattainment areas classified as moderate, total emissions of VOC and oxides of nitrogen from other sources shall offset those proposed or permitted from the major source or major modification by a ratio of at least 1.15 to 1. New major sources and major modifications in serious and severe ozone nonattainment areas shall comply with this Section and R18-2-405.
- D.** Only intrapollutant emission offsets shall be allowed. Intrapollutant emission offsets for VOC shall only include offset reductions in emissions of VOC. Intrapollutant emission offsets for oxides of nitrogen shall only include offset reductions in emissions of oxides of nitrogen.
- E.** For purposes of this Section, "reasonable further progress" means compliance with the schedule of annual incremental reductions in emissions of the applicable air pollutant prescribed by the Director based on air quality modeling under R18-2-409, to provide for attainment of the applicable air quality standards by the deadlines set under Part D of Title I of the Act, or in an applicable implementation plan.
- F.** For purposes of this Article, "net air quality benefit" means that, during similar time periods, either subsection (F)(1) or (2) below is applicable:
1. A reduction in the number of violations of the applicable Arizona ambient air quality standard within the allowable offset area has occurred and the following mathematical expression is satisfied:

$$\sum_{i=1}^N \frac{x_i - C}{N} \leq \sum_{j=1}^K \frac{x_j - C}{K}$$
 when:
 - C = The applicable Arizona ambient air quality standard.
 - x_i = The concentration level of the violation at the i [th] receptor for the pollutant after offsets.
 - N = The number of violations for the pollutant after offsets ($N \leq K$).
 - x_j = The concentration level of the violation at the j [th] receptor for the pollutant before offsets.
 - K = The number of violations for the pollutant before offsets.
 2. The average of the ambient concentrations within the allowable offset area after the implementation of the contemplated offsets will be less than the average of the ambient concentrations within the allowable offset area without the offsets.
- G.** Baseline further defined:
1. For the purpose of this Section, the baseline of total emissions from any sources in existence or sources that have obtained a permit or permit revision under this Article (regardless of whether or not the sources are in actual operation at the time of application for the permit or permit revision) shall be the total actual emissions at the time the application is filed. In addition, the baseline of total emissions shall consist of all emission limitations included as conditions on federally enforceable permits except that the offset baseline shall be the actual emissions of the source from which offset credit is obtained if:
 - a. No emission limitations are applicable to a source from which offsets are being sought; or
 - b. The demonstration of reasonable further progress and attainment of ambient air quality standards is based upon the actual emissions of sources located within a designated nonattainment area.
 2. If the emission limitations for a particular pollutant allow greater emissions than the potential emission rate of the source for that pollutant, the baseline shall be the potential emission rate at the time application for the permit or permit revision under this Article is filed, and emissions offset credit shall be allowed only for control below the potential emission rate.
- H.** For an existing fuel combustion source, offset credit shall be based on the allowable emissions under the regulations or permit conditions applicable to the source for the type of fuel being burned at the time the application for the permit or permit revision under this Article is filed. If an existing source commits to switch to a cleaner fuel at some future date, emissions offset credit based on the actual emissions for the fuels involved shall not be acceptable unless:
1. The permit or permit revision under this Article for the source specifically requires the use of a specified alternative control measure that would achieve the same degree of emissions reduction if the source switches back to a dirtier fuel at some later date; and
 2. The source demonstrates to the Director that it has secured an adequate long-term supply of the cleaner fuel.
- I.** Offsets shall be made on either a pounds-per-hour, pounds-per-day, or tons-per-year basis, whichever is applicable, when all facilities involved in the emission offset calculations are operating at their maximum expected or allowed production rate and, except as otherwise provided in subsection (H), utilizing the type of fuel burned at the time the application for the permit or permit revision under this Article is filed. A tons-per-year basis shall not be used if the new or modified source or the source offsets is not expected to operate throughout the entire year. No emissions credit may be allowed for replacing 1 VOC with another VOC of lesser reactivity.
- J.** Emissions reductions achieved by shutting down an existing source or permanently curtailing production or operating hours below baseline levels may be credited, if the work force to be affected has been notified of the proposed shutdown or curtailment. No offset credit for shutdowns or curtailments shall be provided for emissions reductions that are necessary to bring a source into compliance with RACT or any other standard under an applicable implementation plan.
- K.** The allowable offset area shall be the geographical area in which the sources are located whose emissions are being

sought to offset emissions from a new major source or major modification. For the pollutants sulfur dioxide, PM-10, and carbon monoxide, the allowable offset area shall be determined by atmospheric dispersion modeling. If the emission offsets are obtained from a source on the same premises or in the immediate vicinity of the new major source or major modification, and the pollutants disperse from substantially the same effective stack height, atmospheric dispersion modeling shall not be required. The allowable offset area for all other pollutants shall be the nonattainment areas for those pollutants within which the new major source or major modification is to be located.

- L. An emission reduction may only be used to offset emissions if the reduced level of emissions will continue for the life of the new source or modification and if the reduced level of emissions is federally and legally enforceable at the time of permit issuance. It shall be considered legally enforceable if the following conditions are met:
1. The emission reduction is included as a condition in the permit of the source relied upon to offset the emissions from the new major source or major modification, or in the case of reductions from sources controlled by the applicant, is included as a condition of the permit or permit revision under this Article for the new major source or major modification;
 2. The emission reduction is adopted as a part of this Chapter or comparable rules of any other governmental entity or is contractually enforceable by the Department and is in effect at the time the permit is issued.

Historical Note

Former Section R9-3-404 repealed, new Section R9-3-404 adopted effective May 14, 1979 (Supp. 79-1). Amended by adding subsection (C) effective September 22, 1983 (Supp. 83-5). Former Section R9-3-404 renumbered without change as Section R18-2-404 (Supp. 87-3). Amended subsection (C) effective December 1, 1988 (Supp. 88-4). Section R18-2-404 renumbered to R18-2-604, new Section R18-2-404 adopted effective November 15, 1993 (Supp. 93-4). Amended effective February 28, 1995 (Supp. 95-1). Amended by final rulemaking at 5 A.A.R. 4074, effective September 22, 1999 (Supp. 99-3). Amended by final rulemaking at 8 A.A.R. 1815, effective March 18, 2002 (Supp. 02-1).

R18-2-405. Special Rule for Major Sources of VOC or Oxides of Nitrogen in Ozone Nonattainment Areas Classified as Serious or Severe

- A. Applicability. The provisions of this Section only apply to stationary sources of VOC or oxides of nitrogen in ozone nonattainment areas classified as serious or severe. Unless otherwise provided in this Section, all requirements of Articles 3 and 4 of this Chapter apply.
- B. "Significant" means, for the purposes of a major modification of any major source of VOC or oxides of nitrogen, or for determining whether an otherwise minor source is major under subsection R18-2-401(9)(d), any physical change or change in the method of operations that results in net increases in emissions of either pollutant by more than 25 tons when aggregated with all other creditable increases and decreases in emissions from the source over the previous 5 consecutive calendar years, including the calendar year in which the increase is proposed. For the purposes of this subsection, a physical change or change in the method of operation that results in an increase of less than 1 ton per year of VOC or oxides of nitrogen before netting does not trigger a 5-year aggregation exercise.

- C. For any major source that emits or has the potential to emit less than 100 tons VOC or oxides of nitrogen per year, a significant increase in VOC or oxides of nitrogen, respectively, shall constitute a major modification except that the increase in emissions from any discrete emissions unit, operation, or other pollutant emitting activity that is offset from other units, operations, or activities at the source at a ratio of 1.3 to 1 for the increase in VOC or oxides of nitrogen, respectively, from the unit, operation, or activity shall not be considered part of the major modification. BACT shall be substituted for LAER for all major modifications under this subsection. Net emissions increases in VOC or oxides of nitrogen above the internal offset described herein shall be subject to the offset requirements in subsections (E) and (F).
- D. For any stationary source that emits or has the potential to emit 100 tons or more of VOC or oxides of nitrogen per year, any significant increase in VOC or oxides of nitrogen, respectively, shall constitute a major modification. If the increase in emissions from the modification at any discrete emissions unit, operation, or other pollutant emitting activity is offset from other units, operations, or activities at the source at a ratio of 1.3 to 1 for the increase in VOC or oxides of nitrogen, respectively, from the unit, operation, or activity, BACT shall be substituted for LAER at the unit, operation, or activity. Net emissions increases in VOC or oxides of nitrogen above the internal offset described herein shall be subject to the offset requirements in subsections (E) and (F).
- E. For any new major source or major modification that is classified as major because of emissions or potential to emit VOC or oxides of nitrogen in an ozone nonattainment area classified as serious, the increase in emissions of these pollutants from the source or modification shall be offset at a ratio of 1.2 to 1. The offset shall be made in accordance with the provisions of R18-2-404.
- F. For any new major source or major modification that is classified as such because of emissions or potential to emit VOC or oxides of nitrogen in an ozone nonattainment area classified as severe, the increase in emissions of these pollutants from the source or modification shall be offset at a ratio of 1.3 to 1. If the SIP requires all existing major sources of these pollutants in the nonattainment area to apply BACT, then the offset ratio shall be 1.2 to 1. These offsets shall be made in accordance with the provisions of R18-2-404.

Historical Note

Former R9-3-405, Other industries, renumbered R9-3-406, new Section adopted effective September 17, 1975 (Supp. 75-1). Former Section R9-3-405 repealed, new Section R9-3-405 adopted effective May 14, 1979 (Supp. 79-1). Amended effective October 2, 1979 (Supp. 79-5). Former Section R9-3-405 renumbered without change as Section R18-2-405 (Supp. 87-3). Section R18-2-405 renumbered to R18-2-605, new Section R18-2-405 adopted effective November 15, 1993 (Supp. 93-4). Amended by final rulemaking at 5 A.A.R. 4074, effective September 22, 1999 (Supp. 99-3).

R18-2-406. Permit Requirements for Sources Located in Attainment and Unclassifiable Areas

- A. Except as provided in subsections (B) through (G) below and R18-2-408 (Innovative control technology), no permit or permit revision under this Article shall be issued to a person proposing to construct a new major source or make a major modification to a major source that would be constructed in an area designated as attainment or unclassifiable for any pollutant unless the source or modification meets the following conditions:

1. A new major source shall apply best available control technology (BACT) for each pollutant listed in R18-2-101(104)(a) for which the potential to emit is significant.
2. A major modification shall apply BACT for each pollutant listed in R18-2-101(104)(a) for which the modification would result in a significant net emissions increase at the source. This requirement applies to each proposed emissions unit at which a net emissions increase in the pollutant would occur as a result of a physical change or change in the method of operation in the unit.
3. For phased construction projects, the determination of BACT shall be reviewed and modified as appropriate at the latest reasonable time which occurs no later than 18 months prior to commencement of construction of each independent phase of the project. At such time the owner or operator of the applicable stationary source may be required to demonstrate the adequacy of any previous determination of best available control technology for the source.
4. BACT shall be determined on a case-by-case basis and may constitute application of production processes or available methods, systems, and techniques, including fuel cleaning or treatment, clean fuels, or innovative fuel combustion techniques, for control of such pollutant. In no event shall such application of BACT result in emissions of any pollutant, which would exceed the emissions allowed by any applicable new source performance standard or national emission standard for hazardous air pollutants under Articles 9 and 11 of this Chapter. If the Director determines that technological or economic limitations on the application of measurement methodology to a particular emissions unit would make the imposition of an emissions standard infeasible, a design, equipment, work practice, operational standard, or combination thereof may be prescribed instead to satisfy the requirement for the application of BACT. Such standard shall, to the degree possible, set forth the emissions reduction achievable by implementation of such design, equipment, work practice, or operation and shall provide for compliance by means which achieve equivalent results.
5. The person applying for the permit or permit revision under this Article performs an air impact analysis and monitoring as specified in R18-2-407, and such analysis demonstrates that allowable emission increases from the proposed new major source or major modification, in conjunction with all other applicable emission increases or reductions, including secondary emissions, for all pollutants listed in R18-2-218(A), and including minor and mobile source emissions of oxides of nitrogen and PM-10:
 - a. Would not cause or contribute to an increase in concentrations of any pollutant by an amount in excess of any applicable maximum allowable increase over the baseline concentration in R18-2-218 for any attainment or unclassified area; or
 - b. Would not contribute to an increase in ambient concentrations for a pollutant by an amount in excess of the significance level for such pollutant in any adjacent area in which Arizona primary or secondary ambient air quality standards for that pollutant are being violated. A new major source of volatile organic compounds or oxides of nitrogen, or a major modification to a major source of volatile organic compounds or oxides of nitrogen shall be presumed to contribute to violations of the Arizona ambient air quality standards for ozone if it will be located within 50 kilometers of a nonattainment area for ozone. The presumption may be rebutted for a new major source or major modification if it can be satisfactorily demonstrated to the Director that emissions of volatile organic compounds or oxides of nitrogen from the new major source or major modification will not contribute to violations of the Arizona ambient air quality standards for ozone in adjacent nonattainment areas for ozone. Such a demonstration shall include a showing that topographical, meteorological, or other physical factors in the vicinity of the new major source or major modification are such that transport of volatile organic compounds emitted from the source are not expected to contribute to violations of the ozone standards in the adjacent nonattainment areas.
6. Air quality models:
 - a. All estimates of ambient concentrations required under this Section shall be based on the applicable air quality models, data basis, and other requirements specified in the "Guideline on Air Quality Models (Revised)" (EPA-450/2-78-027R, U.S. Environmental Protection Agency, Office of Air Quality Planning and Standards, Research Triangle Park, N.C. 27711, July 1986), and "Supplement B to the Guideline on Air Quality Models" (U.S. Environmental Protection Agency, September 1990). Both documents shall be referred to hereinafter as "Guideline" and are adopted by reference and on file with the Secretary of State and with the Department.
 - b. Where an air quality impact model specified in the "Guideline" is not applicable, the model may be modified or another model substituted. Such a change shall be subject to notice and opportunity for public comment. Written approval of the EPA Administrator shall be obtained for any modification or substitution.
- B. The requirements of this Section shall not apply to a new major source or major modification to a source with respect to a particular pollutant if the person applying for the permit or permit revision under this Article demonstrates that, as to that pollutant, the source or modification is located in an area designated as nonattainment for the pollutant.
- C. The requirements of this Section shall not apply to a new major source or major modification of a source if such source or modification would be a major source or major modification only if fugitive emissions, to the extent quantifiable, are considered in calculating the potential emissions of the source or modification, and the source is not either among the Categorical Sources listed in R18-2-101 or belongs to the category of sources for which New Source Performance Standards under 40 CFR 60 or National Emission Standards for Hazardous Air Pollutants under 40 CFR 61 promulgated by the Administrator prior to August 7, 1980.
- D. The requirements of this Section shall not apply to a new major source or major modification to a source when the owner of such source is a nonprofit health or educational institution.
- E. The requirements of this Section shall not apply to a portable source which would otherwise be a new major source or major modification to an existing source if such portable source is temporary, is under a permit or permit revision under this Article, is in compliance with the conditions of that permit or permit revision under this Article, the emissions from the source will not impact a Class I area nor an area where an applicable increment is known to be violated, and reasonable notice is

given to the Director prior to the relocation identifying the proposed new location and the probable duration of operation at the new location. Such notice shall be given to the Director not less than 10 calendar days in advance of the proposed relocation unless a different time duration is previously approved by the Director.

- F. Special rules applicable to Federal Land Managers:
 - 1. Notwithstanding any other provision of this Section, a Federal Land Manager may present to the Director a demonstration that the emissions attributed to such new major source or major modification to a source will have significant adverse impact on visibility or other specifically defined air quality related values of any Federal Mandatory area designated in R18-2-217(B) regardless of the fact that the change in air quality resulting from emissions attributable to such new major source or major modification to a source in existence will not cause or contribute to concentrations which exceed the maximum allowable increases for a Class I area. If the Director concurs with such demonstrations, the permit or permit revision under this Article shall be denied.
 - 2. If the owner or operator of a proposed new major source or a source for which major modification is proposed demonstrates to the Federal Land Manager that the emissions attributable to such major source or major modification will have no significant adverse impact on the visibility or other specifically defined air quality-related values of such areas and the Federal Land Manager so certifies to the Director, the Director may issue a permit or permit revision under this Article, notwithstanding the fact that the change in air quality resulting from emissions attributable to such new major source or major modification will cause or contribute to concentrations which exceed the maximum allowable increases for a Class I area. Such a permit or permit revision under this Article shall require that such new major source or major modification comply with such emission limitations as may be necessary to assure that emissions will not cause increases in ambient concentrations greater than the following maximum allowable increases over baseline concentrations for such pollutants:
- | | |
|---------------------|--|
| | Maximum Allowable Increase
(Micrograms per cubic meter) |
| Sulfur Oxide | |
| Period of exposure | |
| Low terrain areas: | |
| 24-hour maximum | 36 |
| 3-hour maximum | 130 |
| High terrain areas: | |
| 24-hour maximum | 62 |
| 3-hour maximum | 221 |
- G. The issuance of a permit or permit revision under this Article in accordance with this Section shall not relieve the owner or operator of the responsibility to comply fully with applicable provisions of the SIP and any other requirements under local, state, or federal law.
 - H. At such time that a particular source or modification becomes a major source or major modification solely by virtue of a relaxation in any enforceable limitation which was established after August 7, 1980, on the capacity of the source or modification otherwise to emit a pollutant, such as a restriction on hours of operation, then the requirements of this Section shall apply to the source or modification as though construction had not yet commenced on the source or modification.

Historical Note

Former Section R9-3-405, renumbered effective Septem-

ber 17, 1975 (Supp. 75-1). Former Section R9-3-406 repealed, new Section R9-3-406 adopted effective May 14, 1979 (Supp. 79-1). Former Section R9-3-406 renumbered without change as Section R18-2-406 (Supp. 87-3). Section R18-2-406 renumbered to R18-2-606, new Section R18-2-406 adopted effective November 15, 1993 (Supp. 93-4). Amended effective February 28, 1995 (Supp. 95-1). The references to subsection R18-2-101(97)(a) in subsection (A)(1) and (2) amended to reference subsection R18-2-101(104)(a) (Supp. 99-3).

R18-2-407. Air Quality Impact Analysis and Monitoring Requirements

- A. Any application for a permit or permit revision under this Article to construct a new major source or major modification to a major source shall contain an analysis of ambient air quality in the area that the new major source or major modification would affect for each of the following pollutants:
 - 1. For the new source, each pollutant that it would have the potential to emit in a significant amount;
 - 2. For the modification, each pollutant for which it would result in a significant net emissions increase.
- B. With respect to any such pollutant for which no Arizona ambient air quality standard exists, the analysis shall contain all air quality monitoring data as the Director determines is necessary to assess ambient air quality for that pollutant in any area that the emissions of the pollutant would affect.
- C. With respect to any such pollutant (other than nonmethane hydrocarbons) for which such a standard does exist, the analysis shall contain continuous air quality monitoring data gathered for purposes of determining whether emissions of that pollutant would cause or contribute to a violation of the standard or any maximum allowable increase.
- D. In general, the continuous air quality monitoring data that is required shall have been gathered over a period of at least 1 year and shall represent at least the year preceding receipt of the application, except that, if the Director determines that a complete and adequate analysis can be accomplished with monitoring data gathered over a period shorter than 1 year (but not to be less than 4 months), the data that is required shall have been gathered over at least that shorter period.
- E. The owner or operator of a proposed stationary source or modification to a source of volatile organic compounds who satisfies all conditions of 40 CFR 51, Appendix S, Section IV, may provide post-approval monitoring data for ozone in lieu of providing preconstruction data as required under subsections (B), (C), and (D) above.
- F. Post-construction monitoring. The owner or operator of a new major source or major modification shall, after construction of the source or modification, conduct such ambient monitoring as the Director determines is necessary to determine the effect emissions from the new source or modification may have, or are having, on air quality in any area.
- G. Operations of monitoring stations. The owner or operator of a new major source or major modification shall meet the requirements of 40 CFR 58, Appendix B, during the operation of monitoring stations for purposes of satisfying subsections (B) through (F) above.
- H. The requirements of subsections (B) through (G) above shall not apply to a new major source or major modification to an existing source with respect to monitoring for a particular pollutant if:
 - 1. The emissions increase of the pollutant from the new source or the net emissions increase of the pollutant from the modification would cause, in any area, air quality impacts less than the following amounts:
 - Carbon Monoxide - 575 µg/m³, 8-hour average;

- Nitrogen dioxide - 14 $\mu\text{g}/\text{m}^3$, annual average;
 PM10 - 10 $\mu\text{g}/\text{m}^3$, 24-hour average;
 Sulfur dioxide - 13 $\mu\text{g}/\text{m}^3$, 24-hour average;
 Lead - 0.1 $\mu\text{g}/\text{m}^3$, 24-hour average;
 Fluorides - 0.25 $\mu\text{g}/\text{m}^3$, 24-hour average;
 Total reduced sulfur - 10 $\mu\text{g}/\text{m}^3$, 1-hour average;
 Hydrogen sulfide - 0.04 $\mu\text{g}/\text{m}^3$, 1-hour average;
 Reduced sulfur compounds - 10 $\mu\text{g}/\text{m}^3$, 1-hour average;
 Ozone - increased emissions of less than 100 tons per year of volatile organic compounds or oxides of nitrogen; or,
2. The concentrations of the pollutant in the area that the new source or modification would affect are less than the concentrations listed in subsection (H)(1) above.
- I. Any application for permit or permit revision under this Article to construct a new major source or major modification to a source shall contain:
1. An analysis of the impairment to visibility, soils, and vegetation that would occur as a result of the new source or modification and general commercial, residential, industrial, and other growth associated with the new source or modification. The applicant need not provide an analysis of the impact on vegetation having no significant commercial or recreational value.
 2. An analysis of the air quality impact projected for the area as a result of general commercial, residential, industrial, and other growth associated with the new source or modification.
- a. Cause or contribute to any violation of an applicable state ambient air quality standard; or
 - b. Impact any area where an applicable increment is known to be violated.
5. All other applicable requirements including those for public participation have been met.
 6. The Director receives the consent of the governors of other affected states.
 7. The limits on pollutants contained in R18-2-218 for Class I areas will be met for all periods during the life of the source or modification.
- C. The Director shall withdraw any approval to employ a system of innovative control technology made under this Section if:
1. The proposed system fails by the specified date to achieve the required continuous emissions reduction rate; or
 2. The proposed system fails before the specified date so as to contribute to an unreasonable risk to public health, welfare, or safety; or
 3. The Director decides at any time that the proposed system is unlikely to achieve the required level of control or to protect the public health, welfare, or safety.
- D. If the new source or major modification fails to meet the required level of continuous emissions reduction within the specified time period, or if the approval is withdrawn in accordance with subsection (C) above, the Director may allow the owner or operator of the source or modification up to an additional 3 years to meet the requirement for the application of best available control technology through use of a demonstrated system of control.

Historical Note

Adopted effective May 14, 1979 (Supp. 79-1). Former Section R9-3-407 renumbered without change as Section R18-2-407 (Supp. 87-3). Section R18-2-407 renumbered to R18-2-607, new Section R18-2-407 adopted effective November 15, 1993 (Supp. 93-4).

R18-2-408. Innovative Control Technology

- A. Notwithstanding the provisions of R18-2-406(A)(1) through (3), the owner or operator of a proposed new major source or major modification may request that the Director approve a system of innovative control technology rather than the best available control technology requirements otherwise applicable to the new source or modification.
- B. The Director shall approve the installation of a system of innovative control technology if the following conditions are met:
 1. The owner or operator of the proposed source or modification satisfactorily demonstrates that the proposed control system would not cause or contribute to an unreasonable risk to public health, welfare, or safety in its operation or function;
 2. The owner or operator agrees to achieve a level of continuous emissions reduction equivalent to that which would have been required under R18-2-406(A)(2) by a date specified in the permit or permit revision under this Article for the source. Such date shall not be later than 4 years from the time of start-up or 7 years from the issuance of a permit or permit revision under this Article;
 3. The source or modification would meet requirements equivalent to those in R18-2-406(A) based on the emissions rate that the stationary source employing the system of innovative control technology would be required to meet on the date specified in the permit or permit revision under this Article.
 4. Before the date specified in the permit or permit revision under this Article, the source or modification would not:

Historical Note

Adopted effective May 14, 1979 (Supp. 79-1). Amended effective October 2, 1979 (Supp. 79-5). Former Section R9-3-408 renumbered without change as Section R18-2-408 (Supp. 87-3). Section R18-2-408 renumbered to R18-2-608, new Section R18-2-408 adopted effective November 15, 1993 (Supp. 93-4).

R18-2-409. Air Quality Models

- A. Where the Director requires a person requesting a permit or permit revision under this Article to perform air quality impact modeling to obtain such permit or permit revision under this Article, the modeling shall be performed in a manner consistent with the Guideline specified in R18-2-406(A)(6)(a).
- B. Where the person requesting a permit or permit revision under this Article can demonstrate that an air quality impact model specified in the Guideline is inappropriate, the model may be modified or another model substituted. However, before such modification or substitution can occur, the Director shall make a written finding that:
 1. No model in the Guideline is appropriate for a particular permit or permit revision under this Article under consideration, or
 2. The data base required for the appropriate model in the Guideline is not available, and
 3. The model proposed as a substitute or modification is likely to produce results equal or superior to those obtained by models in the Guideline, and
 4. The model proposed as a substitute or modification has been approved by the Administrator.
- C. The substitution or modification of an air quality model under this Section shall be included in the public notice under R18-2-330(C).

Historical Note

Adopted effective May 14, 1979 (Supp. 79-1). Former Section R9-3-409 renumbered without change as Section

R18-2-409 (Supp. 87-3). Section R18-2-409 renumbered to R18-2-609, new Section R18-2-409 adopted effective November 15, 1993 (Supp. 93-4).

R18-2-410. Visibility Protection

- A. For any new major source or major modification subject to the provisions of this Chapter, no permit or permit revision under this Article shall be issued to a person proposing to construct or modify the source unless the applicant has provided:
1. An analysis of the anticipated impacts of the proposed source on visibility in any Class I areas which may be affected by the emissions from that source; and
 2. Results of monitoring of visibility in any area near the proposed source for such purposes and by such means as the Director determines is necessary and appropriate.
- B. A determination of an adverse impact on visibility shall be made based on consideration of all of the following factors:
1. The times of visitor use of the area;
 2. The frequency and timing of natural conditions in the area that reduce visibility;
 3. All of the following visibility impairment characteristics:
 - a. Geographic extent,
 - b. Intensity,
 - c. Duration,
 - d. Frequency,
 - e. Time of day;
 4. The correlation between the characteristics listed in subsection (B)(3) and the factors described in subsections (B)(1) and (2).
- C. The Director shall not issue a permit or permit revision pursuant to this Article or Article 3 of this Chapter for any new major source or major modification subject to this Chapter unless the following requirements have been met:
1. The Director shall notify the individuals identified in subsection (C)(2) within 30 days of receipt of any advance notification of any such permit or permit revision under this Article.
 2. Within 30 days of receipt of an application for a permit or permit revision under this Article for a source whose emissions may affect a Class I area, the Director shall provide written notification of the application to the Federal Land Manager and the federal official charged with direct responsibility for management of any lands within any such area. The notice shall:
 - a. Include a copy of all information relevant to the permit or permit revision under this Article,
 - b. Include an analysis of the anticipated impacts of the proposed source on visibility in any area which may be affected by emissions from the source, and
 - c. Provide for no less than a 30-day period within which written comments may be submitted.
 3. The Director shall consider any analysis provided by the Federal Land Manager that is received within the comment period provided in subsection (C)(2).
 - a. Where the Director finds that the analysis provided by the Federal Land Manager does not demonstrate to the satisfaction of the Director that an adverse impact on visibility will result in the area, the Director shall, within the public notice required under R18-2-330, either explain the decision or specify where the explanation can be obtained.
 - b. When the Director finds that the analysis provided by the Federal Land Manager demonstrates to the satisfaction of the Director that an adverse impact on visibility will result in the area, the Director shall not issue a permit or permit revision under this Article

for the proposed major new source or major modification.

4. When the proposed permit decision is made, pursuant to R18-2-304(J), and available for public review, the Director shall provide the individuals identified in subsection (C)(2) with a copy of the proposed permit decision and shall make available to them any materials used in making that determination.

Historical Note

Adopted effective May 14, 1979 (Supp. 79-1). Former Section R9-3-410 renumbered without change as Section R18-2-410 (Supp. 87-3). Section R18-2-410 renumbered to R18-2-610, new Section R18-2-410 adopted effective November 15, 1993 (Supp. 93-4).

R18-2-411. Special Rule for Non-operating Sources of Sulfur Dioxide in Sulfur Dioxide Nonattainment Areas

- A. If an emissions unit that is a major source of sulfur dioxide located in a sulfur dioxide nonattainment area has not operated for more than 24 consecutive calendar months, it may only be restarted if the owner or operator of such source does all of the following:
1. Demonstrates, according to the air quality impact analysis requirements of R18-2-406(A)(5) and (6) that emissions from that unit, including fugitive emissions, will not cause or contribute to a violation of the ambient standard for sulfur dioxide in R18-2-202;
 2. Demonstrates that startup of that unit will not require reconstruction; and
 3. Submits a startup plan that includes a source testing plan.
- B. The demonstrations and plan shall be submitted to the Director at least 180 days prior to the expected day when the restarting of the non-operating unit will commence. The Director may request additional information, as necessary, to evaluate the submittals. The unit shall not be restarted unless the Director approves the submittal.
- C. If the Director disapproves a demonstration or plan required in subsection (A), or such demonstration or plan, including additional information requested by the Director, is not submitted in a timely manner, the source shall be required to obtain a permit pursuant to the requirements for a new major source or major modification as contained in this Article.
- D. The conduct of performance tests that comply with the requirements of R18-2-312 and demonstrate compliance with emission limits prescribed in a permit for that source or an applicable rule shall constitute operation of an emissions unit for the purposes of this Section.

Historical Note

Adopted effective November 15, 1993 (Supp. 93-4).

ARTICLE 5. GENERAL PERMITS

R18-2-501. Applicability

- A. The Director may issue general permits for a facility class that contains 10 or more facilities that are similar in nature, have substantially similar emissions, and would be subject to the same or substantially similar requirements governing operations, emissions, monitoring, reporting, or recordkeeping. "Similar in nature" refers to facility size, processes, and operating conditions.
- B. The Director may issue general permits, in accordance with subsection (A), with emission limitations, controls, or other requirements that meet the requirements of R18-2-306.01. A source that seeks to vary from such a general permit, and obtain an emission limitation, control, or other requirement not contained in that general permit, shall apply for a permit pursuant to Article 3 of this Chapter.

- C. General permits shall not be issued for affected sources except as provided in regulations promulgated by the Administrator under Title IV of the Act.
- D. Unless otherwise stated, the provisions of Article 3 shall apply to general permits.

Historical Note

Former Section R18-2-501 renumbered to R18-2-502, new Section R18-2-501 adopted effective September 26, 1990 (Supp. 90-3). Former Section R18-2-501 renumbered to R18-2-701; new Section adopted effective November 15, 1993 (Supp. 93-4). Amended effective August 1, 1995 (Supp. 95-3).

R18-2-502. General Permit Development

- A. The Director may issue a general permit on the Director's own initiative or in response to a petition.
- B. Any person may submit a petition to the Director requesting the issuance of a general permit for a defined class of facilities. The petition shall propose a particular class of facilities, and list the approximate number of facilities in the proposed class along with their size, processes, and operating conditions, and demonstrate how the class meets the criteria for a general permit as specified in R18-2-501 and A.R.S. § 49-426(H). The Director shall provide a written response to the petition within 120 days of receipt.
- C. General permits shall be issued or denied for classes of facilities using the same engineering principles that applies to permits for individual sources and following the public notice requirements of R18-2-504.
- D. General permits shall include all of the following:
 1. All elements contained in R18-2-306(A) except (2)(b) and (6).
 2. The process for individual sources to apply for coverage under the general permit.

Historical Note

Former Section R9-3-501 repealed, new Section R9-3-501 adopted effective May 14, 1979 (Supp. 79-1). Amended effective October 2, 1979 (Supp. 79-5). Amended effective July 9, 1980 (Supp. 80-4). Amended subsection (D) effective June 19, 1981 (Supp. 81-3). Amended subsections (C) and (D) effective February 2, 1982 (Supp. 82-1). Amended subsection (D) effective May 25, 1982 (Supp. 82-3). Former Section R9-3-501 renumbered without change as Section R18-2-501 (Supp. 87-3). Former Section R18-2-502 repealed, new Section R18-2-502 renumbered from R18-2-501 and amended effective September 26, 1990 (Supp. 90-3). Former Section R18-2-502 renumbered to R18-2-702; new Section R18-2-502 adopted effective November 15, 1993 (Supp. 93-4).

R18-2-503. Application for Coverage under General Permit

- A. Once the Director has issued a general permit, any source which is a member of the class of facilities covered by the general permit may apply to the Director for authority to operate under the general permit. At the time the Director issues a general permit, the Director may also establish a specific application form with filing instructions for sources in the category covered by the general permit. Applicants shall complete the specific application form or, if none has been adopted, the standard application form contained in Appendix 1 to this Chapter. The specific application form shall, at a minimum, require the applicant to submit the following information:
 1. Information identifying and describing the source, its processes, and operating conditions in sufficient detail to

allow the Director to determine qualification for, and to assure compliance with, the general permit.

2. A compliance plan that meets the requirements of R18-2-309.
- B. For sources required to obtain a permit under Title V of the Act, the Director shall provide the Administrator with a permit application summary form and any relevant portion of the permit application and compliance plan. To the extent possible, this information shall be provided in computer-readable format compatible with the Administrator's national database management system.
 - C. The Director shall act on the application for coverage under the general permit as expeditiously as possible, but a final decision shall be reached within 180 days. The source may operate under the terms of its application during that time. If the application for coverage is denied, the Director shall notify the source that it shall apply for an individual permit within 180 days of receipt of notice. The Director may defer acting on an application under this subsection if the Director has provided notice of intent to renew or not renew the permit.
 - D. The Director shall deny an application for coverage from any Class I source that is subject to case-by-case standards or requirements.

Historical Note

Former Section R9-3-503 repealed, new Section R9-3-503 adopted effective May 14, 1979 (Supp. 79-1). Amended effective October 2, 1979 (Supp. 79-5). Amended effective July 9, 1980 (Supp. 80-4). Amended subsection (C), paragraph (6) effective June 19, 1981 (Supp. 81-3). Amended subsection (C) effective September 22, 1983 (Supp. 83-5). Former Section R9-3-503 renumbered without change as Section R18-2-503 (Supp. 87-3). Amended effective September 26, 1990 (Supp. 90-3). Former Section R18-2-503 renumbered to R18-2-703; new Section R18-2-503 adopted effective November 15, 1993 (Supp. 93-4).

R18-2-504. Public Notice

- A. This Section applies to issuance, revision, or renewal of a general permit.
- B. The Director shall provide public notice for any proposed new general permit, for any revision of an existing general permit, and for renewal of an existing general permit.
- C. The Director shall publish notice of the proposed general permit once each week for 2 consecutive weeks in a newspaper of general circulation in each county and shall provide at least 30 days from the date of the 1st notice for public comment. The notice shall describe the following:
 1. The proposed permit;
 2. The category of sources that would be affected;
 3. The air contaminants which the Director expects to be emitted by a typical facility in the class and the class as a whole;
 4. The Director's proposed actions and effective date for the actions;
 5. Locations where documents relevant to the proposed permit will be available during normal business hours;
 6. The name, address, and telephone number of a person within the Department who may be contacted for further information;
 7. The address where any person may submit comments or request a public hearing and the date and time by which comments or a public hearing request are required to be received;
 8. The process by which sources may obtain authorization to operate under the general permit.

1. For process sources having a process weight rate of 60,000 pounds per hour (30 tons per hour) or less, the maximum allowable emissions shall be determined by the following equation:

$$E = 4.10P^{0.67}$$
 where:
 E = the maximum allowable particulate emissions rate in pounds-mass per hour.
 P = the process weight rate in tons-mass per hour.
 2. For process sources having a process weight rate greater than 60,000 pounds per hour (30 tons per hour), the maximum allowable emissions shall be determined by the following equation:

$$E = 55.0P^{0.11-40}$$
 where "E" and "P" are defined as indicated in subsection (A)(1).
- B.** For reference purposes only, the equations in subsection (A) are plotted in Figure 2, Appendix 11. The emission values obtained from the graph are approximately correct for the process weight rates shown. However, the actual values shall be calculated from the applicable equations and rounded off to 2 decimal places.
- C.** For purposes of this Section, the total process weight from all similar units employing a similar type process shall be used in determining the maximum allowable emission of particulate matter.
- D.** The opacity of emissions subject to the provisions of this Section shall not exceed 20%.
- E.** The test methods and procedures required by this Section are as follows:
1. The reference methods set forth in 40 CFR 60, Appendix A shall be used to determine compliance with the standards prescribed in subsection (A) as follows:
 - a. Method 5 for the concentration of particulate matter and the associated moisture content;
 - b. Method 1 for sample and velocity traverses;
 - c. Method 2 for velocity and volumetric flow rate;
 - d. Method 3 for gas analysis.
 2. For Method 5, the sampling time for each run shall be at least 120 minutes and the sampling rate shall be at least 0.9 dscm/hr (0.53 dscf/min), except that shorter sampling times, when necessitated by process variables or other factors, may be approved by the Director. Particulate matter sampling shall be conducted during representative periods of charging and refining but not during pouring of the heat.
- 2.** For process sources having a process weight rate greater than 60,000 pounds per hour (30 tons per hour), the maximum allowable emissions shall be determined by the following equation:

$$E = 55.0P^{0.11-40}$$
 where "E" and "P" are defined as indicated in subsection (A)(1).
- B.** For reference purposes only, the equations in subsection (A) are plotted in Figure 2, Appendix 11. The emission values obtained from the graph are approximately correct for the process weight rates shown. However, the actual values shall be calculated from the applicable equations and rounded off to 2 decimal places.
- C.** For purposes of this Section, the total process weight from all similar units employing a similar type process shall be used in determining the maximum allowable emission of particulate matter.
- D.** The opacity of emissions subject to the provisions of this Section shall not exceed 20%.
- E.** Monitoring of operations under this Section is as follows:
1. The owner or operator of an affected facility shall maintain daily records of the time and duration of each steel production cycle.
 2. The owner or operator of any affected facility that uses Venturi scrubber emission control equipment shall install, calibrate, maintain and continuously operate the following monitoring devices:
 - a. A monitoring device for the continuous measurement of the pressure loss through the Venturi constriction of the control equipment. The monitoring device shall be certified by the manufacturer to be accurate within ± 250 pascals (± 1 inch water).
 - b. A monitoring device for the continuous measurement of the water supply pressure to the control equipment. The monitoring device is to be certified by the manufacturer to be accurate within $\pm 5\%$ of the design water supply pressure. The pressure sensor or tap shall be located close to the water discharge point.
 3. All monitoring devices required in subsection (F)(2) shall be recalibrated annually and at other times as the Director may require, in accordance with the procedures in Appendix 9.
- F.** The test methods and procedures required under this Section are as follows:
1. The reference methods set forth in 40 CFR 60, Appendix A shall be used to determine compliance with the standards prescribed in subsection (A) as follows:
 - a. Method 5 for concentration of particulate matter and associated moisture content;
 - b. Method 1 for sample and velocity traverses;
 - c. Method 2 for volumetric flow rate;
 - d. Method 3 for gas analysis.
 2. For Method 5, the sampling for each run shall continue for an integral number of cycles with total duration of at least 60 minutes. The sampling rate shall be at least 0.9 dscm/hr (0.53 dscf/min), except that shorter sampling times, when necessitated by process variables or other factors, may be approved by the Director. A cycle shall start at the beginning of either the scrap preheat or the oxygen blow and shall terminate immediately prior to tapping.

Historical Note

Section R18-2-712 renumbered from R18-2-512 effective November 15, 1993 (Supp. 93-4).

R18-2-713. Standards of Performance for Existing Iron and Steel Plants

- A.** No person shall cause, allow or permit the discharge of particulate matter into the atmosphere in any 1 hour from any basic oxygen process furnace in total quantities in excess of the amount calculated by 1 of the following equations:
1. For process sources having a process weight rate of 60,000 pounds per hour (30 tons per hour) or less, the maximum allowable emissions shall be determined by the following equation:

$$E = 4.10P^{0.67}$$
 where:
 E = the maximum allowable particulate emissions rate in pounds-mass per hour.
 P = the process weight rate in tons-mass per hour.

Historical Note

Section R18-2-713 renumbered from R18-2-513 effective November 15, 1993 (Supp. 93-4).

R18-2-714. Standards of Performance for Existing Sewage Treatment Plants

- A. No person shall cause, allow or permit to be emitted into the atmosphere, from any municipal sewage treatment plant sludge incinerator:
 - 1. Smoke, fumes, gases, particulate matter or other gas-borne material which exceeds 20% opacity for more than 30 seconds in any 60-minute period.
 - 2. Particulate matter in concentrations in excess of 0.1 grain per cubic foot, based on dry flue gas at standard conditions, corrected to 12% carbon dioxide.
- B. The owner or operator of any sludge incinerator subject to the provisions of this Section shall monitor operations by doing all of the following:
 - 1. Install, calibrate, maintain and operate a flow measuring device which can be used to determine either the mass or volume of sludge charged to the incinerator. The flow measuring device shall have an accuracy of $\pm 5\%$ over its operating range.
 - 2. Provide access to the sludge charged so that a well-mixed representative grab sample of the sludge can be obtained.
 - 3. Install, calibrate, maintain and operate a weighing device for determining the mass of any municipal solid waste charged to the incinerator when sewage sludge and municipal solid wastes are incinerated together. The weighing device shall have an accuracy of $\pm 5\%$ over its operating range.
- C. The test methods and procedures required by this Section are as follows:
 - 1. The reference methods set forth in 40 CFR 60, Appendix A shall be used to determine compliance with the standards prescribed in subsection (A) as follows:
 - a. Method 5 for concentration of particulate matter and associated moisture content;
 - b. Method 1 for sample and velocity traverses;
 - c. Method 2 for volumetric flow rate; and
 - d. Method 3 for gas analysis.
 - 2. For Method 5, the sampling time for each run shall be at least 60 minutes and the sampling rate shall be at least 0.015 dscm/min (0.53 dscf/min), except that shorter sampling times, when necessitated by process variables or other factors, may be approved by the Director.

Historical Note

Section R18-2-714 renumbered from R18-2-514 effective November 15, 1993 (Supp. 93-4).

R18-2-715. Standards of Performance for Existing Primary Copper Smelters; Site-specific Requirements

- A. No owner or operator of a primary copper smelter shall cause, allow or permit the discharge of particulate matter into the atmosphere from any process in total quantities in excess of the amount calculated by one of the following equations:
 - 1. For process sources having a process weight rate of 60,000 pounds per hour (30 tons per hour) or less, the maximum allowable emissions shall be determined by the following equation:

$$E = 4.10P^{0.67}$$
 where
 E = the maximum allowable particulate emissions rate in pounds-mass per hour.
 P = the process weight rate in tons-mass per hour.
 - 2. For process sources having a process weight rate greater than 60,000 pounds per hour (30 tons per hour), the maximum allowable emissions shall be determined by the following equation:

$$E = 55.0P^{0.11-40}$$

where "E" and "P" are defined as indicated in subsection (A)(1).

- B. For reference purposes only, the equations in subsection (A) are plotted in Figure 2, Appendix 11. The emission values obtained from the graph are approximately correct for the process weight rates shown. However, the actual values shall be calculated from the applicable equations and rounded off to 2 decimal places.
- C. For purposes of this Section, the total process weight from all similar units employing a similar type process shall be used in determining the maximum allowable emission of particulate matter for that process.
- D. The opacity of emissions subject to the provisions of this Section shall not exceed 20%.
- E. The reference methods set forth in the Arizona Testing Manual and 40 CFR 60, Appendix A shall be used to determine compliance with the standards prescribed in this Section as follows:
 - 1. Method A1 or Reference Method 5 for concentration of particulate matter and associated moisture content;
 - 2. Reference Method 1 for sample and velocity traverses;
 - 3. Reference Method 2 for volumetric flow rate;
 - 4. Reference Method 3 for gas analysis.
- F. Except as provided in a consent decree or a delayed compliance order, the owner or operator of any primary copper smelter shall not discharge or cause the discharge of sulfur dioxide into the atmosphere from any stack required to be monitored by R18-2-715.01(K) in excess of the following:
 - 1. For the copper smelter located near San Manuel, Arizona at latitude 32°36'58"N and longitude 110°37'19"W:
 - a. Annual average emissions, as calculated under R18-2-715.01(C), shall not exceed 1,742 pounds per hour.
 - b. The number of three-hour average emissions, as calculated under R18-2-715.01(C), shall not exceed n cumulative occurrences in excess of E, the emission level, shown in the following table in any compliance period as defined in R18-2-715.01(J):

n,	E,
Cumulative Occurrences	(lb/hr)
0	9803
1	8253
2	7619
4	6072
7	5660
12	4922
20	4515
32	4272
48	3945
68	3727
94	3568
130	3419
180	3253
245	3101
330	2958
435	2831
560	2712
710	2615

Department of Environmental Quality - Air Pollution Control

890	2525
1100	2440
1340	2366
1610	2290
1910	2216
2240	2142

330	15,700
435	15,200
560	14,400
710	13,500
890	12,700
1100	12,000
1340	11,200
1610	10,500
1910	10,000
2240	9,500

2. For the copper smelter of ASARCO Inc., Hayden:
- a. Annual average emissions, as calculated pursuant to R18-2-715.01(C) through (J), shall not exceed 9,521 pounds per hour.
 - b. The number of three-hour average emissions, as calculated pursuant to R18-2-715.01(C) through (J), shall not exceed n cumulative occurrences in excess of E, the emission level, shown in the following table in any compliance period:

<u>n</u>	<u>E, lb/hr.</u>
0	38,000
1	36,000
2	34,000
4	32,000
7	30,500
12	28,800
20	27,300
32	26,000
48	25,000
68	23,800
94	22,700
130	21,500
180	20,500
245	19,300
330	18,500
435	17,500
560	16,700
710	16,000
890	15,000
1100	14,200
1340	13,500
1610	12,800
1910	12,200
2240	11,500

3. For the copper smelter of ASARCO, Inc., Ray Mines Division:

- a. Annual average emissions, as calculated pursuant to R18-2-715.01(C) through (J), shall not exceed 7,790 pounds per hour.
- b. The number of 3-hour average emissions, as calculated pursuant to R18-2-715.01(C) through (J), shall not exceed n cumulative occurrences in excess of E, the emission level, shown in the following table in any compliance period:

<u>n</u>	<u>E, lb/hr.</u>
0	34,000
1	32,000
2	30,000
4	28,500
7	26,800
12	25,300
20	24,000
32	22,800
48	21,700
68	20,700
94	19,700
130	18,700
180	17,700
245	16,700

4. For the copper smelter of Cyprus Miami Mining Corporation, Miami:

- a. Annual average emissions, as calculated pursuant to R18-2-715.01(C) through (J), shall not exceed 3,163 pounds per hour.
- b. The number of 3-hour average emissions, as calculated pursuant to R18-2-715.01(C) through (J), shall not exceed n cumulative occurrences in excess of E, the emission level, shown in the following table in any compliance period:

<u>n</u>	<u>E, lb/hr.</u>
0	16,900
1	15,800
2	14,750
4	13,900
7	13,100
12	12,250
20	11,500
32	10,800
48	10,250
68	9,750
94	9,250
130	8,700
180	8,200
245	7,600
330	7,200
435	6,750
560	6,300
710	5,800
890	5,500
1100	5,200
1340	4,800
1610	4,500
1910	4,100
2240	3,800

5. For the copper smelter of Phelps Dodge Corporation, New Cornelia Branch:

- a. Annual average emissions, as calculated pursuant to R18-2-715.01(C) through (J), shall not exceed 8,900 pounds per hour.
- b. The number of 3-hour average emissions, as calculated pursuant to R18-2-715.01(C) through (J), shall not exceed n cumulative occurrences in excess of E, the emission level, shown in the following table in any compliance period:

<u>n</u>	<u>E, lb/hr.</u>
0	37,000
1	35,000
2	32,500
4	31,000
7	29,000
12	27,500
20	26,000
32	25,000
48	23,500
68	22,500

94	21,500
130	20,500
180	19,500
245	18,500
330	17,500
435	17,000
560	16,000
710	15,000
890	14,250
1100	13,500
1340	12,500
1610	12,000
1910	11,000
2240	10,500

6. For the copper smelter of Phelps Dodge Corporation, Morenci Branch:

a. Annual average emissions, as calculated pursuant to R18-2-715.01(C) through (J), shall not exceed 10,505 pounds per hour.

b. The number of 3-hour average emissions, as calculated pursuant to R18-2-715.01(C) through (J), shall not exceed n cumulative occurrences in excess of E, the emissions level, shown in the following table in any compliance period:

n	E, lb/hr.
0	43,500
1	41,000
2	38,200
4	36,200
7	34,500
12	32,500
20	30,500
32	29,500
48	28,000
68	27,000
94	26,000
130	24,500
180	23,000
245	22,000
330	21,000
435	19,500
560	18,500
710	17,500
890	16,500
1100	15,500
1340	15,000
1610	14,000
1910	13,000
2240	12,000

G. Except as provided in a consent decree or a delayed compliance order, the owner or operator of the copper smelter located near San Manuel, Arizona at latitude 32°36'58"N and longitude 110°37'19"W shall not discharge or cause the discharge of fugitive sulfur dioxide into the atmosphere in excess of the following:

1. Annual average emissions calculated under R18-2-715.01(R) shall not exceed 715 pounds per hour for converter roof fugitive emissions; and
2. The number of three-hour average emissions for converter roof fugitive emissions, calculated under R18-2-715.01(R) shall not exceed n cumulative occurrences in excess of E_p, the emission level, shown in the following

table in any compliance period as defined in R18-2-715.01(J):

n,	E _p
Cumulative Occurrences	(lb/hr)
0	4462
1	4299
2	4222
4	4017
7	3867
12	3460
20	3179
32	3000
48	2827
68	2649
94	2523
130	2361
180	2218
245	2072
330	1923
435	1785
560	1644
710	1517
890	1402
1100	1300
1340	1208
1610	1121
1910	1039
2240	957

Historical Note

Section R18-2-715 renumbered from R18-2-515 and amended effective November 15, 1993 (Supp. 93-4). Amended by final rulemaking at 8 A.A.R. 575, effective January 15, 2002 (Supp. 02-1).

R18-2-715.01. Standards of Performance for Existing Primary Copper Smelters; Compliance and Monitoring

A. The cumulative occurrence and emission limits in R18-2-715(F) apply to the total of sulfur dioxide emissions from the smelter processing units and sulfur dioxide control and removal equipment, but not uncaptured fugitive emissions and emissions due solely to the use of fuel for space heating or steam generation.

B. The owner or operator shall include periods of malfunction, startup, shutdown or other upset conditions when determining compliance with the cumulative occurrence or annual average emission limits in R18-2-715(F) or (G).

C. The owner or operator shall determine compliance with the cumulative occurrence and emission limits contained in R18-2-715(F) as follows:

1. The owner or operator shall calculate annual average emissions at the end of each day by averaging the emissions for all hours measured during the compliance period defined in subsection (J) ending on that day. An annual emissions average in excess of the allowable annual average emission limit is a violation of R18-2-715(F) if either:
 - a. The annual average is greater than the annual average computed for the preceding day; or

- b. The annual averages computed for the five preceding days all exceed the allowable annual average emission limit; and
2. The owner or operator shall calculate a three-hour emissions average at the end of each clock hour by averaging the hourly emissions for the preceding three consecutive hours provided each hour was measured according to the requirements in subsection (K).
- D. For purposes of this Section, the compliance date, unless otherwise provided in a consent decree or a delayed compliance order, shall be January 14, 1986, except that the compliance date for the cumulative occurrence and emissions limits in R18-2-715(F)(1) and R18-2-715(G)(1) and (2) is January 15, 2002.
- E. For purposes of subsection (C), a three-hour emissions average in excess of an emission level E violates the associated cumulative occurrence limit n listed in R18-2-715(F) if:
1. The number of all three-hour emissions averages calculated during the compliance period in excess of that emission level exceeds the cumulative occurrence limit associated with the emission level; and
 2. The average is calculated during the last operating day of the compliance period being reported.
- F. A three-hour emissions average only violates the cumulative occurrence limit n of an emission level E on the day containing the last hour in the average.
- G. Multiple violations of the same cumulative occurrence limit on the same day and violations of different cumulative occurrence limits on the same day constitute a single violation of R18-2-715(F).
- H. The violation of any cumulative occurrence limit and an annual average emission limit on the same day constitutes only a single violation of the requirements of R18-2-715(F).
- I. Multiple violations of a cumulative occurrence limit by different three-hour emissions averages containing any common hour constitutes a single violation of R18-2-715(F).
- J. To determine compliance with subsections (C) through (I), the compliance period consists of the 365 calendar days immediately preceding the end of each day of the month being reported unless that period includes less than 300 operating days, in which case the number of days preceding the last day of the compliance period shall be increased until the compliance period contains 300 operating days. For purposes of this Section, an operating day is any day on which sulfur-containing feed is introduced into the smelting process.
- K. To determine compliance with R18-2-715(F), the owner or operator of any smelter subject to R18-2-715(F) shall install, calibrate, maintain, and operate a measurement system for continuously monitoring sulfur dioxide concentrations and stack gas volumetric flow rates in each stack that could emit five percent or more of the allowable annual average sulfur dioxide emissions from the smelter.
1. The owner or operator shall continuously monitor sulfur dioxide concentrations and stack gas volumetric flow rates in the outlet of each piece of sulfur dioxide control equipment.
 2. The owner or operator shall continuously monitor captured fugitive emissions for sulfur dioxide concentrations and stack gas volumetric flow rates and include these emissions as part of total plant emissions when determining compliance with the cumulative occurrence and emission limits in R18-2-715(F).
 3. If the owner or operator demonstrates to the Director that measurement of stack gas volumetric flow in the outlet of any particular piece of sulfur dioxide control equipment would yield inaccurate results once operational or would be technologically infeasible, then the Director may allow measurement of the flow rate at an alternative sampling point.
4. For purposes of this subsection, continuous monitoring means the taking and recording of at least one measurement of sulfur dioxide concentration and stack gas flow rate reading from the effluent of each affected stack, outlet, or other approved measurement location in each 15-minute period. Fifteen-minute periods start at the beginning of each clock hour, and run consecutively. An hour of smelter emissions is considered continuously monitored if the emissions from all monitored stacks, outlets, or other approved measurement locations are measured for at least 45 minutes of any hour according to the requirements of this subsection.
5. The owner or operator shall demonstrate that the continuous monitoring system meets all of the following requirements:
- a. The sulfur dioxide continuous emission monitoring system installed and operated under this Section meets the requirements of 40 CFR 60, Appendix B, Performance Specification 6.
 - b. The sulfur dioxide continuous emission monitoring system installed and operated under this Section meets the quality assurance requirements of 40 CFR 60, Appendix F.
 - c. The owner or operator shall notify the Director in writing at least 30 days in advance of the start of quality assurance procedures performed on the continuous monitoring system.
 - d. The Director shall approve the location of all sampling points for monitoring sulfur dioxide concentrations and stack gas volumetric flow rates in writing before installation and operation of measurement instruments.
 - e. The measurement system installed and used under this subsection is subject to the manufacturer's recommended zero adjustment and calibration procedures at least once per 24-hour operating period unless the manufacturer specifies or recommends calibration at shorter intervals, in which case specifications or recommendations shall be followed. The owner or operator shall make available a record of these procedures that clearly shows instrument readings before and after zero adjustment and calibration.
- L. The owner or operator of a smelter subject to this Section shall measure at least 95 percent of the hours during which emissions occurred in any month.
- M. The owner or operator of a smelter subject to this Section shall measure any 12 consecutive hours of emissions according to the requirements of subsection (K) or (S).
- N. The owner or operator of any smelter subject to this Section shall maintain on hand and ready for immediate installation sufficient spare parts or duplicate systems for the continuous monitoring equipment required by this Section to allow for the replacement within six hours of any monitoring equipment part that fails or malfunctions during operation.
- O. To determine total overall emissions, the owner or operator of any smelter subject to this Section shall perform material balances for sulfur according to the procedures prescribed by Appendix 8 of this Chapter.
- P. The owner or operator of any smelter subject to this Section shall maintain a record of all average hourly emissions measurements required by this Section. The record of the emissions shall be retained for at least five years following the date

of measurement. The owner or operator shall record the measurement results as pounds per hour of sulfur dioxide. The owner or operator shall summarize the following monthly and submit them to the Director within 20 days after the end of each month:

1. For all periods described in subsection (C) and (R), the annual average emissions as calculated at the end of each day of the month;
 2. The total number of hourly periods during the month in which measurements were not taken and the reason for loss of measurement for each period;
 3. The number of three-hour emissions averages that exceeded each of the applicable emissions levels listed in R18-2-715(F) and (G) for the compliance periods ending on each day of the month being reported;
 4. The date on which a cumulative occurrence limit listed in R18-2-715(F) or (G) was exceeded if the exceedance occurred during the month being reported.
- Q.** An owner or operator shall install instrumentation to monitor each point in the smelter facility where a means exists to bypass the sulfur removal equipment, to detect and record all periods that the bypass is in operation. An owner or operator of a copper smelter shall report to the Director, not later than the 15th day of each month, the recorded information required by this Section, including an explanation for the necessity of the use of the bypass.
- R.** The owner or operator shall determine compliance with the cumulative occurrence and fugitive emission limits contained in R18-2-715(G)(1) and (2) as follows:
1. The owner or operator shall calculate annual average emissions at the end of each day by averaging the emissions for all hours measured during the compliance period, as defined in subsection (R)(8), ending on that day. An annual emissions average in excess of the allowable annual average emission limit is a violation of R18-2-715(G)(1) if either:
 - a. The annual average is greater than the annual average computed for the preceding day; or
 - b. The annual averages computed for the five preceding days all exceed the allowable annual average emission limit.
 2. The owner or operator shall calculate a three-hour emissions average at the end of each clock hour by averaging the hourly emissions for the preceding three consecutive hours provided each hour was measured according to the requirements contained in subsection (S).
 3. For purposes of subsection (R)(2), a three-hour emissions average in excess of an emission level E_f violates the associated cumulative occurrence limit n listed in R18-2-715(G)(2) if:
 - a. The number of all three-hour emissions averages calculated during the compliance period in excess of that emission level exceeds the cumulative occurrence limit associated with the emission level; and
 - b. The average is calculated during the last operating day of the compliance period being reported.
 4. A three-hour emissions average only violates the cumulative occurrence limit n of an emission level E_f on the day containing the last hour in the average.
 5. Multiple violations of the same cumulative occurrence limit on the same day and violations of different cumulative occurrence limits on the same day constitute a single violation of R18-2-715(G)(2).
 6. The violation of any cumulative occurrence limit and an annual average emission limit on the same day constitutes

only a single violation of the requirements of R18-2-715(G).

7. Multiple violations of a cumulative occurrence limit by different three-hour emissions averages containing any common hour constitutes a single violation of R18-2-715(G)(2).
 8. To determine compliance with subsections (R)(1) through (7), the compliance period consists of the 365 calendar days immediately preceding the end of each day of the month being reported unless that period includes less than 300 operating days, in which case the number of days preceding the last day of the compliance period shall be increased until the compliance period contains 300 operating days. For purposes of this Section, an operating day is any day on which sulfur-containing feed is introduced into the smelting process.
- S.** To determine compliance with R18-2-715(G)(1) and (2), the owner or operator of any smelter subject to R18-2-715(G)(1) and (2) shall install, calibrate, maintain, and operate a measurement system for continuously monitoring sulfur dioxide concentrations of the converter roof fugitive emissions.
1. For purposes of this subsection, continuous monitoring means the taking and recording of at least one measurement of sulfur dioxide concentration from an approved measurement location in each 15-minute period. Fifteen-minute periods start at the beginning of each clock hour, and run consecutively. An hour of smelter emissions is considered continuously monitored if the emissions from all approved measurement locations are measured for at least 45 minutes of any hour according to the requirements of this subsection.
 2. The owner or operator of a smelter subject to the requirements of this subsection shall conduct quality assurance procedures on the continuous monitoring system according to the methods in 40 CFR 60, Appendix F, except that an annual relative accuracy test audit (RATA) is not required.

Historical Note

Section R18-2-715.01 renumbered from R18-2-515.01 and amended effective November 15, 1993 (Supp. 93-4). Amended by final rulemaking at 8 A.A.R. 575, effective January 15, 2002 (Supp. 02-1).

R18-2-715.02. Standards of Performance for Existing Primary Copper Smelters; Fugitive Emissions

- A.** For purposes of this Section, the compliance date, unless otherwise provided in a consent decree or a delayed compliance order, shall be January 14, 1986.
- B.** No later than 24 months before the compliance date, the owner or operator of a smelter subject to R18-2-715 shall submit to the Director the results of an evaluation of the fugitive emissions from the smelter. The evaluation results shall contain all of the following information:
1. A measurement or accurate estimate of total fugitive emissions from the smelter during typical operations, including planned start-up and shutdown. The measurement or estimate shall contain the amount of both average short-term (24 hours) and average long-term (monthly) fugitive emissions from the smelter. The evaluation plan shall be approved in advance by the Department and shall specify the method used to determine the fugitive emission amounts, including the conditions determined to be "typical operations" for the smelter.
 2. A measurement or accurate estimate of the relative proportion, expressed as a percentage, of total fugitive emissions during typical operations, including planned start-

up and shutdown, produced by any of the following smelter processes:

- a. Roaster or dryer operation;
 - b. Calcine or dried concentrate transfer;
 - c. Reverberatory furnace operations, including feeding, slag return, matte and slag tapping;
 - d. Matte transfer; and
 - e. Converter operations.
3. The measurement technique or method of estimation used to fulfill the requirement in subsection (B)(2) shall be approved in advance by the Department.
 4. The results of at least a 6-month fugitive emission impact analysis conducted during that part of the year when fugitive emissions are expected to have the greatest ambient air quality impact. The study shall utilize sufficient measurements of fugitive emissions, meteorological conditions and ambient sulfur dioxide concentrations to associate fugitive emissions with specific measured ambient concentrations of sulfur dioxide. The study shall describe in detail the techniques used to make the required determinations. The design of the study shall be approved in advance by the Department.
- C. On the basis of the results of the evaluation as well as other data and information contained in the records of the Department, the Director shall determine whether fugitive emissions from a particular smelter have the potential to cause or significantly contribute to violations of the ambient sulfur dioxide standards in the vicinity of the smelter. If the Director finds that fugitive emissions from a particular smelter have the potential to cause or significantly contribute to violations of ambient sulfur dioxide standards in the vicinity of a smelter, then the Director shall adopt rules specifying the emission limits and undertake other appropriate measures necessary to maintain ambient sulfur dioxide standards.
- D. The requirements of subsection (B) shall not apply to a smelter subject to this Section if the owner or operator of that smelter can demonstrate to the Director both that:
1. Compliance with the applicable cumulative occurrence and emission limits listed in R18-2-715(F) will require the smelter to undergo major modifications to its physical configuration or work practices prior to the compliance date, and
 2. That the modification will reduce fugitive emissions to such an extent that such emissions will not cause or significantly contribute to violations of ambient sulfur dioxide standards in the vicinity of the smelter.
- E. In order to assess the sufficiency of the cumulative occurrence and emission limits contained in R18-2-715(F) to maintain the ambient air quality standards for sulfur dioxide set forth in R18-2-202, an owner or operator of a smelter subject to this Section shall continue to calibrate, maintain and operate any ambient sulfur dioxide monitoring equipment owned by the smelter owner or operator and in operation within the area of the smelter enclosed by a circle with 10-mile radius as calculated from a center point which shall be the point of the smelter's greatest sulfur dioxide emissions, for a period of at least 3 years after the compliance date.
1. Such monitors shall be operated and maintained in accordance with 40 CFR 50 and 58 and such other conditions as the Director deems necessary.
 2. The location of ambient sulfur dioxide monitors and length of time such monitors remain at a location shall be determined by the Director.

Historical Note

Section R18-2-715.02 renumbered from R18-2-515.02 and amended effective November 15, 1993 (Supp. 93-4).

R18-2-716. Standards of Performance for Existing Coal Preparation Plants

- A. The provisions of this Section are applicable to any of the following affected facilities in coal preparation plants: thermal dryers, pneumatic coal-cleaning equipment, coal processing and conveying equipment including breakers and crushers, coal storage systems, and coal transfer and loading systems. For purposes of this Section, the definitions contained in 40 CFR 60.251 are adopted by reference and incorporated herein.
- B. No person shall cause, allow or permit the discharge of particulate matter into the atmosphere in any 1 hour from any existing coal preparation plant in total quantities in excess of the amounts calculated by 1 of the following equations:
1. For process sources having a process weight rate of 60,000 pounds per hour (30 tons per hour) or less, the maximum allowable emissions shall be determined by the following equation:

$$E = 4.10P^{0.67}$$
 where:
 E = the maximum allowable particulate emissions rate in pounds-mass per hour.
 P = the process weight rate in tons-mass per hour.
 2. For process sources having a process weight rate greater than 60,000 pounds per hour (30 tons per hour), the maximum allowable emissions shall be determined by the following equation:

$$E = 55.0P^{0.1140}$$
 where "E" and "P" are defined as indicated in subsection (B)(1).
- C. For reference purposes only, the equations in subsection (B) are plotted in Figure 2, Appendix 11. The emission values obtained from the graph are approximately correct for the process weight rates shown. However, the actual values shall be calculated from the applicable equations and rounded off to 2 decimal places.
- D. For purposes of this Section, the total process weight from all similar units employing a similar type process shall be used in determining the maximum allowable emission of particulate matter.
- E. Fugitive emissions from coal preparation plants shall be controlled in accordance with R18-2-604 through R18-2-607.
- F. The test methods and procedures required by this Section are as follows:
1. The reference methods in the 40 CFR 60, Appendix A are used to determine compliance with standards prescribed in subsection (B) as follows:
 - a. Method 5 for the concentration of particulate matter and associated moisture content;
 - b. Method 1 for sample and velocity traverses;
 - c. Method 2 for velocity and volumetric flow rate;
 - d. Method 3 for gas analysis.
 2. For Method 5, the sampling time for each run shall be at least 60 minutes and the minimum sample volume is 0.85 dscm (30 dscf) except that short sampling times or smaller volumes, when necessitated by process variables or other factors, may be approved by the Director. Sampling shall not be started until 30 minutes after start-up and shall be terminated before shutdown procedures commence. The owner or operator of the affected facility shall eliminate cyclonic flow during performance tests in a manner acceptable to the Director.
 3. The owner or operator shall construct the facility so that particulate emissions from thermal dryers or pneumatic coal cleaning equipment can be accurately determined by applicable test methods and procedures under subsection (F)(1).

Section A.2

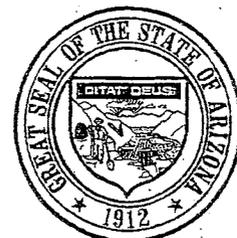
Information Regarding Revisions to AAC R18-2-715 and R18-2-715.01, “Standards of Performance for Primary Copper Smelters: Site Specific Requirements; Compliance and Monitoring”

Part A.2.1	March 22, 2002, Notice of Proposed Rulemaking
Part A.2.2	Notice of Public Hearing
Part A.2.3	Public Hearing Agenda
Part A.2.4	Public Hearing Sign In Sheet
Part A.2.5	Public Hearing Officer Certification and Transcript
Part A.2.6	Draft Notice of Final Rulemaking

Part A.2.1

March 22, 2002, Notice of Proposed Rulemaking

Arizona Administrative Register



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March 22, 2002

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Scott Cancelosi
Assistant Director
Public Services Division

BETSEY BAYLESS
Secretary of State

John J. Kyl
Acting Editor
Arizona Administrative Register

Arizona Administrative Register
Notices of Proposed Rulemaking

claiming to be Title XXI eligible without first receiving verification from the Administration that the individual was ineligible for Title XXI services on the date of service or that the services provided were not covered.

- B.** The IHS, a Tribal Facility, a TRBHA, or a provider under referral shall not charge, submit a claim, demand, or otherwise collect payment, directly or through a collection agency, from a member, or a person acting on behalf of a member, for any service except as described:
1. To collect an authorized copayment;
 2. To pay for non-covered services;
 3. To recover from a member that portion of payment made by a third party to the member when the payment duplicates Title XXI paid benefits and has not been assigned to a contractor. A contractor who makes a claim under this provision shall not charge more than the actual, reasonable cost of providing the covered service;
 4. To bill a member for medical expenses incurred during a period of time when the member intentionally withheld information or intentionally provided inaccurate information pertaining to the member's Title XXI eligibility or enrollment that caused payment to be reduced or denied.

R9-31-1621. Transfer of Payments

Payments permitted. Payments may be made to other than the IHS, a Tribal Facility, or a referral provider as follows:

1. Payment made in accordance with an assignment to a government agency or an assignment made according to a court order; or
 2. Payment made to a business agent, such as a billing service or accounting firm, who renders statements and receives payment in the name of the IHS, a Tribal Facility, or a provider providing that an agent's compensation for this service is:
 - a. Reasonably related to the cost of processing the statements; and
 - b. Not dependent upon the actual collection of payment.
- A.** Business agent. For purposes of this Section a business agent is a firm such as a billing service or accounting firm who renders statements and receives payment in behalf of the contractor or AHCCCS registered provider.
- B.** Allowable transfer of payments. The Administration makes payments to other than the IHS, a Tribal Facility, a TRBHA, or a provider under referral as follows:
1. When there is an assignment to a government agency or there is an assignment under a court order; or
 2. When a business agent, who renders statements and receives payment in the name the IHS, a Tribal Facility, a TRBHA, or a provider under referral and the agent's compensation for this service is:
 - a. Reasonably related to the cost of processing the statements; and
 - b. Not dependent upon the actual collection of payment.

R9-31-1623. Copayments and Premiums Repealed

- A.** ~~The IHS or a Tribal Facility shall be responsible for collecting a \$5.00 copayment from a member for non-emergency use of the emergency room.~~
- B.** ~~The IHS or a Tribal Facility shall ensure that a member is not denied services because of a member's inability to pay a copayment.~~
- C.** ~~The Administration shall establish standards for premiums as discussed in 9 A.A.C. 31, Article 14.~~

NOTICE OF PROPOSED RULEMAKING

TITLE 18. ENVIRONMENTAL QUALITY

**CHAPTER 2. DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR POLLUTION CONTROL**

PREAMBLE

- | | |
|---|---|
| 1. <u>Sections Affected</u>
R18-2-715
R18-2-715.01 | <u>Rulemaking Action</u>
Amend
Amend |
|---|---|
- 2. The specific authority for the rulemaking, including both the authorizing statute (general and the statutes the rules are implementing (specific):**
Authorizing and implementing statutes: A.R.S. §§ 49-104(A)(11), 49-404, 49-425, and 49-426
- 3. List of all previous notices appearing in the register addressing the proposed rule:**
Notice of Rulemaking Docket Opening: 8 A.A.R. 1111, March 15, 2002

Arizona Administrative Register
Notices of Proposed Rulemaking

4. The name and address of agency personnel with whom persons may communicate regarding the rulemaking:

Name: Mark Lewandowski
Address: ADEQ, 3033 North Central Avenue
Phoenix, AZ 85012-2809
Telephone: (602) 207-2230. If you are outside the (602) area code dial 1(800) 234-5677, and ask for the extension.
Fax: (602) 207-2366

5. An explanation of the rule, including the agency's reasons for initiating the rule:

Summary. The Arizona Department of Environmental Quality is proposing reductions in emission limits applicable to two copper smelters: one located in Hayden, Gila County, and one located in Miami, Gila County.

Because of measured exceedances of the national ambient air quality standards for sulfur dioxide (SO₂), both the Hayden and the Miami areas were designated nonattainment for SO₂ in 1979. The emissions limits contained in R18-2-715 were adopted in 1979 as a means of lowering stack emissions of SO₂ from the smelters. Because the rule will be a control measure for the air quality State Implementation and Maintenance Plans (SIPs) for the Hayden and Miami SO₂ nonattainment areas, updated air quality impact analyses were performed for both smelters. These analyses demonstrate future air quality protection based on current and expected future operation levels. The new limits proposed in R18-2-715 demonstrate that the smelters are not expected to cause or contribute to a violation of the national ambient air quality standards for SO₂.

For the Hayden smelter, the rule incorporates lower SO₂ stack emission limits and adds new limits for fugitive emissions. For the Miami smelter, the rule incorporates lower SO₂ stack emission limits and includes an overall combined limit for stack and fugitive sources. The proposed rule revisions for the Miami smelter correspond to limits already contained in the facility's permit. The new limits for both the Hayden and Miami smelters also require minor changes to the compliance and monitoring provisions in R18-2-715.01.

Additional amendments to R18-2-715 are proposed to update the rule to remove those sections with emissions limits for smelters that are no longer operating. The rule sections proposed for removal are: R18-2-715(F)(3) for the defunct copper smelter of ASARCO, Inc., Ray Mines Division in Hayden, Pinal County; R18-2-715(F)(5) for the defunct copper smelter of Phelps Dodge Corporation, New Cornelia Branch in Ajo, Pima County; and R18-2-715(F)(6) for the defunct copper smelter of Phelps Dodge Corporation, Morenci Branch in Morenci, Greenlee County.

6. A showing of good cause why the rule is necessary to promote a statewide interest if the rule will diminish a previous grant of authority of a political subdivision of the state:

Not applicable

7. A reference to any study that the agency proposes to rely on its evaluation of or justification for the proposed rule and where the public may obtain or review the study, all data underlying each study, any analysis of the study and other supporting material:

Not applicable

8. The preliminary summary of the economic, small business, and consumer impact:

This rule is primarily a source-specific rulemaking pertaining to the smelter located in Hayden, Gila County, and the smelter located in Miami, Gila County. The Hayden smelter is currently owned and operated by ASARCO Incorporated. The Miami smelter is currently owned and operated by Phelps Dodge Corporation. The Hayden and Miami facilities are classified as major sources for sulfur dioxide and both areas are designated as nonattainment for sulfur dioxide. This rule incorporates lower emissions limits for sulfur dioxide applicable to both smelters.

Subsequent to codification of the rule in 1979, numerous improvements have been implemented at the smelters. ASARCO representatives indicated that over \$123,000,000 was spent in upgrading and rebuilding the facility since 1983 for various reasons, including replacing outdated and worn out equipment and introducing more efficient technology. The changes include improved emissions collection systems and control technology, as well as implementation of an improved data collection, recordkeeping, and reporting infrastructure. Similar improvements at the Miami facility are reported by Phelps Dodge representatives to have cost more than \$100,000,000.

The current rule revisions are not expected to result in significant additional costs to either smelter. As previously explained, expenditures for emissions collection and control technology have already been incurred and are not attributed to the current rulemaking. No additional labor needs will be generated by the rule. The new emission limits may, however, require updates of the existing data collection, recordkeeping, and reporting infrastructure. Representatives of the ASARCO smelter at Hayden report an estimated one-time expenditure of \$5,000 to \$10,000 for com-

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puter software. Similar data collection and reporting upgrades at the Miami smelter are estimated by representatives of Phelps Dodge to also be a one-time expenditure, at a cost of \$4,000 to \$6,000.

The Arizona Department of Environmental Quality does not anticipate that the rule changes applicable to the closed smelters will have any substantive economic impact. In all cases, the local citizens may benefit because of lower social costs associated with improved air quality.

9. The name and address of agency personnel with whom persons may communicate regarding the accuracy of the economic, small business, and consumer impact statement:

Name: David Lillie, Economist, Rule Development Section
Address: ADEQ
3033 North Central Avenue
Phoenix, AZ 85012-2809
Telephone: (602) 207-2295 (Any extension may be reached in-state by dialing 1-800-234-5677 and asking for that extension.)
Fax: (602) 207-2366

10. The time, place, and nature of the proceedings for the adoption, amendment, or repeal of the rule or, if no proceeding is scheduled, where, when and how persons may request an oral proceeding on the proposed rule:

Oral Proceeding: April 23, 2002, 1:00 p.m.

Location: Miami Town Hall, Council Chambers, 500 Sullivan Street, Miami, AZ, 85539

and

Oral Proceeding: April 24, 2002, 1:00 p.m.

Location: Hayden Town Hall, Council Chambers, 520 Velasco Avenue, Hayden, AZ, 85235

(Please call 602-207-4795 for special accommodations pursuant to the Americans with Disabilities Act.)

Nature: Public hearing with opportunity for formal comments on the record regarding the proposed rule and the submittal of the rule to the Environmental Protection Agency as a revision to the State Implementation Plan.

Close of comment: 5:00 p.m., April 25, 2002

11. Any other matters prescribed by statute that are applicable to the specific agency or to any specific rule or class of rules:

Not applicable

12. Incorporations by reference and their location in the rules:

None

13. The full text of the rule follows:

TITLE 18. ENVIRONMENTAL QUALITY

CHAPTER 2. DEPARTMENT OF ENVIRONMENTAL QUALITY

AIR POLLUTION CONTROL

ARTICLE 7. EXISTING STATIONARY SOURCE PERFORMANCE STANDARDS

Section

R18-2-715. Standards of Performance for Existing Primary Copper Smelters; Site-specific Requirements
R18-2-715.01. Standards of Performance for Existing Primary Copper Smelters; Compliance and Monitoring

ARTICLE 7. EXISTING STATIONARY SOURCE PERFORMANCE STANDARDS

R18-2-715. Standards of Performance for Existing Primary Copper Smelters; Site-specific Requirements

- A. No change
- B. No change
- C. No change
- D. No change
- E. No change

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- F. Except as provided in a consent decree or a delayed compliance order, the owner or operator of any primary copper smelter shall not discharge or cause the discharge of sulfur dioxide into the atmosphere from any stack required to be monitored by R18-2-715.01(K) in excess of the following:
1. For the copper smelter located near San Manuel, Arizona at latitude 32° 36' 58" N and longitude 110° 37' 19" W:
 - a. Annual average emissions, as calculated under R18-2-715.01(C), shall not exceed 1,742 pounds per hour.
 - b. The number of three-hour average emissions, as calculated under R18-2-715.01(C), shall not exceed n cumulative occurrences in excess of E, the emission level, shown in the following table in any compliance period as defined in R18-2-715.01(J):

n, Cumulative Occurrences	E, (lb/hr)
0	9803
1	8253
2	7619
4	6072
7	5660
12	4922
20	4515
32	4272
48	3945
68	3727
94	3568
130	3419
180	3253
245	3101
330	2958
435	2831
560	2712
710	2615
890	2525
1100	2440
1340	2366
1610	2290
1910	2216
2240	2142

2. For the copper smelter of ASARCO Inc., Hayden located near Hayden, Arizona at latitude 33° 0' 29" N and longitude 110° 47' 17" W:
 - a. Annual average emissions, as calculated pursuant to under R18-2-715.01(C) ~~through (J)~~, shall not exceed ~~9,521~~ 7066 pounds per hour.
 - b. The number of ~~3-hour~~ three-hour average emissions, as calculated pursuant to under R18-2-715.01(C) ~~through (J)~~, shall not exceed n cumulative occurrences in excess of E, the emission level, shown in the following table in any compliance period as defined in R18-2-715.01(J):

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n, Cumulative Occurrences	E, (lb/hr)
0	38,000 25300
1	36,000 23585
2	34,000 22285
4	32,000 20830
7	30,500 19834
12	28,800 19177
20	27,300 18079
32	26,000 17407
48	25,000 16752
68	23,800 16130
94	22,700 15458
130	21,500 14803
180	20,500 14129
245	19,300 13540
330	18,500 12987
435	17,500 12438
560	16,700 11919
710	16,000 11457
890	15,000 10934
1100	14,200 10472
1340	13,500 9999
1610	12,800 9562
1910	12,200 9185
2240	11,500 8778

3. For the copper smelter of ASARCO, Inc., Ray Mines Division:

- a. Annual average emissions, as calculated pursuant to R18-2-715.01(C) through (J), shall not exceed 7,790 pounds per hour.
- b. The number of 3-hour average emissions, as calculated pursuant to R18-2-715.01(C) through (J), shall not exceed n cumulative occurrences in excess of E, the emission level, shown in the following table in any compliance period:

n	E, (lb/hr)
0	34,000
1	32,000
2	30,000
4	28,500
7	26,800

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12	25,300
20	24,000
32	22,800
48	21,700
68	20,700
94	19,700
130	18,700
180	17,700
245	16,700
330	15,700
435	15,200
560	14,400
710	13,500
890	12,700
1100	12,000
1340	11,200
1610	10,500
1910	10,000
2240	9,500

4.3. For the copper smelter of Cyprus Miami Mining Corporation, Miami located near Miami, Arizona at latitude 33° 24' 50" N and longitude 110° 51' 25" W:

- a. Annual average emissions, as calculated pursuant to under R18-2-715.01(C) through (J), shall not exceed 3,163 604 pounds per hour.
- b. The number of ~~3-hour~~ three-hour average emissions, as calculated pursuant to under R18-2-715.01(C) through (J), shall not exceed n cumulative occurrences in excess of E, the emission level, shown in the following table in any compliance period as defined in R18-2-715.01(I):

n, Cumulative Occurrences	E, (lb/hr)
0	16,900 8678
1	15,800 7158
2	14,750 5903
4	13,900 4575
7	13,100 4074
12	12,250 3479
20	11,500 3017
32	10,800 2573
48	10,250 2111
68	9,750 1703
94	9,250 1461
130	8,700 1274
180	8,200 1145

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245	7,600	1064
330	7,200	1015
435	6,750	968
560	6,300	933
710	5,800	896
890	5,500	862
1100	5,200	828
1340	4,800	797
1610	4,500	765
1910	4,100	739
2240	3,800	712

5. For the copper smelter of Phelps Dodge Corporation, New Cornelia Branch:
- a. Annual average emissions, as calculated pursuant to R18-2-715.01(C) through (J), shall not exceed 8,900 pounds per hour.
 - b. The number of 3-hour average emissions, as calculated pursuant to R18-2-715.01(C) through (J), shall not exceed n cumulative occurrences in excess of E, the emission level, shown in the following table in any compliance period:

n	E, (lb/hr)
0	37,000
1	35,000
2	32,500
4	31,000
7	29,000
12	27,500
20	26,000
32	25,000
48	23,500
68	22,500
94	21,500
130	20,500
180	19,500
245	18,500
330	17,500
435	17,000
560	16,000
710	15,000
890	14,250
1100	13,500
1340	12,500
1610	12,000
1910	11,000

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2240	10,500
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6. For the copper smelter of Phelps Dodge Corporation, Morenci Branch:
- a. Annual average emissions, as calculated pursuant to R18-2-715.01(C) through (J), shall not exceed 10,505 pounds per hour.
 - b. The number of 3-hour average emissions, as calculated pursuant to R18-2-715.01(C) through (J), shall not exceed n cumulative occurrences in excess of E, the emissions level, shown in the following table in any compliance period:

n	E _n (lb/hr)
0	43,500
1	41,000
2	38,200
4	36,200
7	34,500
12	32,500
20	30,500
32	29,500
48	28,000
68	27,000
94	26,000
130	24,500
180	23,000
245	22,000
330	21,000
435	19,500
560	18,500
710	17,500
890	16,500
1100	15,500
1340	15,000
1610	14,000
1910	13,000
2240	12,000

- G. Except as provided in a consent decree or a delayed compliance order, the owner or operator of the copper smelter located near San Manuel, Arizona at latitude 32° 36' 58" N and longitude 110° 37' 19" W smelters listed below shall not discharge or cause the discharge of fugitive sulfur dioxide into the atmosphere in excess of the following:
- 1. For the copper smelter located near San Manuel, Arizona at latitude 32° 36' 58" N and longitude 110° 37' 19" W:
 - 1.a. Annual average emissions calculated under R18-2-715.01(R) shall not exceed 715 pounds per hour for converter roof fugitive emissions; and
 - 2.b. The number of three-hour average emissions for converter roof fugitive emissions, calculated under R18-2-715.01(R) shall not exceed n cumulative occurrences in excess of E_f, the emission level, shown in the following table in any compliance period as defined in R18-2-715.01(F)(R)(8):

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n, Cumulative Occurrences	E _f (lb/hr)
0	4462
1	4299
2	4222
4	4017
7	3867
12	3460
20	3179
32	3000
48	2827
68	2649
94	2523
130	2361
180	2218
245	2072
330	1923
435	1785
560	1644
710	1517
890	1402
1100	1300
1340	1208
1610	1121
1910	1039
2240	957

2. For the copper smelter located near Hayden, Arizona at latitude 33° 0' 29"N and longitude 110° 47' 17"W, annual average fugitive emissions calculated under R18-2-715.01(T) shall not exceed 582 pounds per hour.
- H. In addition to the limits in subsection (F)(3), except as provided in a consent decree or a delayed compliance order, the owner or operator of the copper smelter located near Miami, Arizona at latitude 33° 24' 50" N and longitude 110° 51' 25" W shall not discharge or cause the discharge of sulfur dioxide into the atmosphere from combined stack and fugitive emissions units in excess of the 2420 pounds per hour annual average calculated under R18-2-715.01(U).
- R18-2-715.01. Standards of Performance for Existing Primary Copper Smelters; Compliance and Monitoring**
- A. The cumulative occurrence and emission limits in R18-2-715(F) apply to the total of sulfur dioxide emissions from the smelter processing units and sulfur dioxide control and removal equipment, but not uncaptured fugitive emissions and or emissions due solely to the use of fuel for space heating or steam generation.
- B. The owner or operator shall include periods of malfunction, startup, shutdown or other upset conditions when determining compliance with the cumulative occurrence or annual average emission limits in R18-2-715(F), or (G), or (H).
- C. The owner or operator shall determine compliance with the cumulative occurrence and emission limits contained in R18-2-715(F) as follows:
1. The owner or operator shall calculate annual average emissions at the end of each day by averaging the emissions for all hours measured during the compliance period defined in subsection (J) ending on that day. An annual emissions average in excess of the allowable annual average emission limit is a violation of R18-2-715(F) if either:

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- a. The annual average is greater than the annual average computed for the preceding day; or
 - b. The annual averages computed for the five preceding days all exceed the allowable annual average emission limit; ~~and~~.
2. The owner or operator shall calculate a three-hour emissions average at the end of each clock hour by averaging the hourly emissions for the preceding three consecutive hours provided each hour was measured according to the requirements in subsection (K).
- D. For purposes of this Section, the compliance date, unless otherwise provided in a consent decree or a delayed compliance order, shall be January 14, 1986, except that:
1. ~~The~~ The compliance date for the cumulative occurrence and emissions limits in R18-2-715(F)(1) and R18-2-715(G)(1) ~~and (2)~~ is January 15, 2002; ~~and~~
 2. The compliance date for the cumulative occurrence and emissions limits in R18-2-715(F)(2), (F)(3), (G)(2), and (H) is the effective date of this rule.
- E. For purposes of subsection (C), a three-hour emissions average in excess of an emission level E violates the associated cumulative occurrence limit n listed in R18-2-715(F) if:
1. The number of all three-hour emissions averages calculated during the compliance period in excess of that emission level exceeds the cumulative occurrence limit associated with the emission level; and
 2. The average is calculated during the last operating day of the compliance period being reported.
- F. A three-hour emissions average only violates the cumulative occurrence limit n of an emission level E on the day containing the last hour in the average.
- G. Multiple violations of the same cumulative occurrence limit on the same day and violations of different cumulative occurrence limits on the same day constitute a single violation of R18-2-715(F).
- H. The violation of any cumulative occurrence limit and an annual average emission limit on the same day constitutes only a single violation of the requirements of R18-2-715(F).
- I. Multiple violations of a cumulative occurrence limit by different three-hour emissions averages containing any common hour constitutes a single violation of R18-2-715(F).
- J. To determine compliance with subsections (C) through (I), the compliance period consists of the 365 calendar days immediately preceding the end of each day of the month being reported unless that period includes less than 300 operating days, in which case the number of days preceding the last day of the compliance period shall be increased until the compliance period contains 300 operating days. For purposes of this Section, an operating day is any day on which sulfur-containing feed is introduced into the smelting process.
- K. To determine compliance with R18-2-715(F) ~~or (H)~~, the owner or operator of any smelter subject to R18-2-715(F) ~~or (H)~~ shall install, calibrate, maintain, and operate a measurement system for continuously monitoring sulfur dioxide concentrations and stack gas volumetric flow rates in each stack that could emit five percent or more of the allowable annual average sulfur dioxide emissions from the smelter.
1. The owner or operator shall continuously monitor sulfur dioxide concentrations and stack gas volumetric flow rates in the outlet of each piece of sulfur dioxide control equipment.
 2. The owner or operator shall continuously monitor captured fugitive emissions for sulfur dioxide concentrations and stack gas volumetric flow rates and include these emissions as part of total plant emissions when determining compliance with the cumulative occurrence and emission limits in R18-2-715(F) ~~and (H)~~.
 3. If the owner or operator demonstrates to the Director that measurement of stack gas volumetric flow in the outlet of any particular piece of sulfur dioxide control equipment would yield inaccurate results once operational or would be technologically infeasible, then the Director may allow measurement of the flow rate at an alternative sampling point.
 4. For purposes of this subsection, continuous monitoring means the taking and recording of at least one measurement of sulfur dioxide concentration and stack gas flow rate reading from the effluent of each affected stack, outlet, or other approved measurement location in each 15-minute period. Fifteen-minute periods start at the beginning of each clock hour, and run consecutively. An hour of smelter emissions is considered continuously monitored if the emissions from all monitored stacks, outlets, or other approved measurement locations are measured for at least 45 minutes of any hour according to the requirements of this subsection.
 5. The owner or operator shall demonstrate that the continuous monitoring system meets all of the following requirements:
 - a. The sulfur dioxide continuous emission monitoring system installed and operated under this Section meets the requirements of 40 CFR 60, Appendix B, Performance Specification 6.
 - b. The sulfur dioxide continuous emission monitoring system installed and operated under this Section meets the quality assurance requirements of 40 CFR 60, Appendix F.
 - c. The owner or operator shall notify the Director in writing at least 30 days in advance of the start of ~~quality assurance~~ relative accuracy test audit (RATA) procedures performed on the continuous monitoring system.
 - d. The Director shall approve the location of all sampling points for monitoring sulfur dioxide concentrations and stack gas volumetric flow rates in writing before installation and operation of measurement instruments.

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- e. The measurement system installed and used under this subsection is subject to the manufacturer's recommended zero adjustment and calibration procedures at least once per 24-hour operating period unless the manufacturer specifies or recommends calibration at shorter intervals, in which case specifications or recommendations shall be followed. The owner or operator shall make available a record of these procedures that clearly shows instrument readings before and after zero adjustment and calibration.
- L. The owner or operator of a smelter subject to this Section shall measure at least 95 percent of the hours during which emissions occurred in any month.
- M. ~~The Failure of the owner or operator of a smelter subject to this Section shall to measure any 12 consecutive hours of emissions according to the requirements of subsection (K) or (S) is a violation of this Section.~~
- N. The owner or operator of any smelter subject to this Section shall maintain on hand and ready for immediate installation sufficient spare parts or duplicate systems for the continuous monitoring equipment required by this Section to allow for the replacement within six hours of any monitoring equipment part that fails or malfunctions during operation.
- O. To determine total overall emissions, the owner or operator of any smelter subject to this Section shall perform material balances for sulfur according to the procedures prescribed by Appendix 8 of this Chapter.
- P. The owner or operator of any smelter subject to this Section shall maintain a record of all average hourly emissions measurements and all calculated average monthly emissions required by this Section. The record of the emissions shall be retained for at least five years following the date of measurement or calculation. The owner or operator shall record the measurement or calculation results as pounds per hour of sulfur dioxide. The owner or operator shall summarize the following data monthly and submit them the summary to the Director within 20 days after the end of each month:
 - 1. For all periods described in subsection (C) and (R), the annual average emissions as calculated at the end of each day of the month;
 - 2. The total number of hourly periods during the month in which measurements were not taken and the reason for loss of measurement for each period;
 - 3. The number of three-hour emissions averages that exceeded each of the applicable emissions levels listed in R18-2-715(F) and (G)(1)(b) for the compliance periods ending on each day of the month being reported;
 - 4. The date on which a cumulative occurrence limit listed in R18-2-715(F) or (G)(1)(b) was exceeded if the exceedance occurred during the month being reported; and
 - 5. For all periods described in subsections (T) and (U), the annual average emissions as calculated at the end of the last day of each month.
- Q. An owner or operator shall install instrumentation to monitor each point in the smelter facility where a means exists to bypass the sulfur removal equipment, to detect and record all periods that the bypass is in operation. An owner or operator of a copper smelter shall report to the Director, not later than the 15th day of each month, the recorded information required by this Section, including an explanation for the necessity of the use of the bypass.
- R. The owner or operator shall determine compliance with the cumulative occurrence and fugitive emission limits contained in R18-2-715(G)(1) ~~and (2)~~ as follows:
 - 1. The owner or operator shall calculate annual average emissions at the end of each day by averaging the emissions for all hours measured during the compliance period, as defined in subsection (R)(8), ending on that day. An annual emissions average in excess of the allowable annual average emission limit is a violation of R18-2-715(G)(1)(a) if either:
 - a. The annual average is greater than the annual average computed for the preceding day; or
 - b. The annual averages computed for the five preceding days all exceed the allowable annual average emission limit.
 - 2. The owner or operator shall calculate a three-hour emissions average at the end of each clock hour by averaging the hourly emissions for the preceding three consecutive hours provided each hour was measured according to the requirements contained in subsection (S).
 - 3. For purposes of subsection (R)(2), a three-hour emissions average in excess of an emission level E_f violates the associated cumulative occurrence limit n listed in R18-2-715(G)(2)(1)(b) if:
 - a. The number of all three-hour emissions averages calculated during the compliance period in excess of that emission level exceeds the cumulative occurrence limit associated with the emission level; and
 - b. The average is calculated during the last operating day of the compliance period being reported.
 - 4. A three-hour emissions average only violates the cumulative occurrence limit n of an emission level E_f on the day containing the last hour in the average.
 - 5. Multiple violations of the same cumulative occurrence limit on the same day and violations of different cumulative occurrence limits on the same day constitute a single violation of R18-2-715(G)(2) (1)(b).
 - 6. The violation of any cumulative occurrence limit and an annual average emission limit on the same day constitutes only a single violation of the requirements of R18-2-715(G)(1).
 - 7. Multiple violations of a cumulative occurrence limit by different three-hour emissions averages containing any common hour constitutes a single violation of R18-2-715(G)(2)(1)(b).

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8. To determine compliance with subsections (R)(1) through (R)(7), the compliance period consists of the 365 calendar days immediately preceding the end of each day of the month being reported unless that period includes less than 300 operating days, in which case the number of days preceding the last day of the compliance period shall be increased until the compliance period contains 300 operating days. For purposes of this Section, an operating day is any day on which sulfur-containing feed is introduced into the smelting process.
- S. To determine compliance with R18-2-715(G)(1) ~~and (2)~~, the owner or operator of ~~any~~ the smelter subject to R18-2-715(G)(1) ~~and (2)~~ shall install, calibrate, maintain, and operate a measurement system for continuously monitoring sulfur dioxide concentrations of the converter roof fugitive emissions.
 1. For purposes of this subsection, continuous monitoring means the taking and recording of at least one measurement of sulfur dioxide concentration from an approved measurement location in each 15-minute period. Fifteen-minute periods start at the beginning of each clock hour, and run consecutively. An hour of smelter emissions is considered continuously monitored if the emissions from all approved measurement locations are measured for at least 45 minutes of any hour according to the requirements of this subsection.
 2. The owner or operator of a smelter subject to the requirements of this subsection shall conduct quality assurance procedures on the continuous monitoring system according to the methods in 40 CFR 60, Appendix F, except that an annual relative accuracy test audit (RATA) is not required.
- T. The emission limit in R18-2-715(G)(2) applies to the total of uncaptured fugitive sulfur dioxide emissions from the smelter processing units and sulfur dioxide control and removal equipment, but not emissions due solely to the use of fuel for space heating or steam generation. The owner or operator shall determine compliance with the emission limit contained in R18-2-715(G)(2) as follows:
 1. The owner or operator shall calculate annual average fugitive emissions at the end of the last day of each month by averaging the monthly emissions for the previous 12-month period ending on that day. As a means of determining monthly fugitive emissions, the owner or operator shall perform material balances for sulfur according to the sulfur balance procedures prescribed in Appendix 8 of this Chapter.
 2. An annual emissions average in excess of the allowable annual average emission limit is a violation of R18-2-715(G)(2) if the fugitive annual average computed at the end of each month exceeds the allowable annual average emission limit.
- U. The emission limit in R18-2-715(H) applies to the total of stack and uncaptured fugitive sulfur dioxide emissions from the smelter processing units and sulfur dioxide control and removal equipment, but not emissions due solely to the use of fuel for space heating or steam generation. The owner or operator shall determine compliance with the emission limit contained in R18-2-715(H) as follows:
 1. The owner or operator shall calculate annual average stack emissions at the end of the last day of each month by averaging the emissions for all hours measured during the previous 12-month period ending on that day according to the requirements contained in subsection (K).
 2. The owner or operator shall calculate annual average fugitive emissions at the end of the last day of each month by averaging the monthly emissions for the previous 12-month period ending on that day. As a means of determining monthly fugitive emissions, the owner or operator shall perform material balances for sulfur according to the sulfur balance procedures prescribed in Appendix 8 of this Chapter.
 3. An annual emissions average in excess of the allowable annual average emission limit is a violation of R18-2-715(H) if the total of the stack and fugitive annual averages computed at the end of each month exceeds the allowable annual average emission limit.

Part A.2.2

Notice of Public Hearing for Rulemaking

PUBLIC NOTICE
ARIZONA DEPARTMENT OF
ENVIRONMENTAL QUALITY
PUBLIC HEARING

ON PROPOSED AMENDMENTS TO ARIZONA
ADMINISTRATIVE CODE R18-2-715 AND
R18-2-715.01, STANDARDS OF PERFORMANCE
FOR EXISTING PRIMARY COPPER SMELTERS, TO
INCORPORATE REDUCED SULFUR DIOXIDE
EMISSIONS LIMITS FOR THE COPPER SMELTERS
AT HAYDEN AND MIAMI, ARIZONA

The Arizona Department of Environmental Quality (ADEQ) will hold two public hearings on its proposal to amend state regulations for copper smelters by incorporating reductions in emission limits for two smelters: one located near Hayden, Gila County and one near Miami, Gila County. Because of measured exceedances of the national ambient air quality standards for sulfur dioxide (SO₂), both the Hayden and the Miami areas were designated nonattainment for SO₂ in 1979. The emissions limits contained in R18-2-715 were adopted in 1979 as a means of lowering stack emissions of SO₂.

from the smelters. Because the proposed revised rule will be a control measure in the air quality State Implementation and Maintenance Plans for the Hayden and Miami SO₂ nonattainment areas, updated air quality impact analyses were performed for both smelters. These analyses demonstrate future air quality protection based on current and projected levels of operation. The new limits proposed in R18-2-715 demonstrate that the smelters are not expected to cause or contribute to a violation of the national ambient air quality standards for SO₂. This rule revision is one step in the process to request that the U.S. Environmental Protection Agency redesignate these areas to attainment. The new emission limits also require changes to the compliance methods in R18-2-715.01.

Additional amendments to R18-2-715 are proposed to update the rule to remove those subsections for smelters that are no longer operating. The rule subsections proposed for removal pertain to the defunct copper smelter of ASARCO, Inc., Ray Mines Division in Hayden, Pinal County; the defunct copper smelter of Phelps Dodge Corporation, New Comelia Branch in Ajo, Pinal County; and for the defunct copper smelter of Phelps Dodge Corporation, Morenci Branch in Morenci, Greenlee County.

A public hearing on the proposed rule revisions will be held on Tuesday, April 23, 2002, at 1:00 p.m., Miami Town Hall, Council Chambers, 500 Sullivan Street, Miami, AZ 85539. A second hearing will be held on Wednesday, April 24, 2002, at 1:00 p.m., Hayden Town Hall, Council Chambers, 520 Velasco Avenue, Hayden, AZ 85235. All interested parties will be given an opportunity at the public hearings to submit relevant comments, data, and views, orally and in writing. Written comments must be received at ADEQ by 5:00 p.m. on Thursday, April 25, 2002.

All written comments should be addressed, faxed, or e-mailed to:

Mark Lewandowski
Air Quality Planning Section
Arizona Department of Environmental Quality
3033 N. Central Ave., T5109B
Phoenix, AZ 85012-2905
FAX: (602) 207-2366
E-Mail: lewandowski.mark@ev.state.az.us

The proposed rule can be found in the March 22, 2002, Arizona Administrative Register, which is on the web at www.sosaz.com/aar/. Copies of the proposal are also available for review beginning March 22, 2002, at the following locations:

Arizona Department of Environmental Quality Library
First Floor

3033 N. Central Avenue,
Phoenix, Arizona 85012,
Lorraine Akey, (602) 207-4335,
and

Town of Miami
Office of the Clerk
500 Sullivan Street
Miami, Arizona 85539
Marge Henry, (928) 473-4403,
and

Town of Hayden
Office of the Clerk
520 Velasco Avenue
Hayden, Arizona 85235
Maria G. Garcia, (520) 356-7801

For further information please contact Mark Lewandowski at 1-800-234-5677 ext. 2230.
One Pub: 3-20-2002 Bet 3315

Affidavit of Publication

State of Arizona County of Gila

Ellen Kretsch, or her authorized representative, _____, being first duly sworn deposes and says:

That she is the publisher of the Arizona Silver Belt, San Carlos Apache Moccasin, and the Gila County Advantage newspapers, located at 298 North Pine Street, Globe, Arizona 85501, or mail P.O. Box 31, Globe, Arizona 85502.

The above stated newspapers are published weekly in Globe, in the State of Arizona, County of Gila and that the following described legal, or advertising was duly published.

Public Notice Arizona Department of Environmental Quality Public Hearing on Proposed Amendments-existing copper smelters, to incorporate reduced Sulfur Dioxide Emissions limits for the copper smelters at Hayden & Miami, AZ

A printed copy of said legal or advertisements is attached hereto and was published in a regular weekly edition of said newspaper (and not a supplement thereof) for 1 consecutive weeks in the 1 Arizona Silver Belt newspaper, and/or the San Carlos Apache Moccasin newspaper, and/or the Gila County Advantage. The dates of publication being as follows, to wit:

3-20-2002

Ellen Kretsch

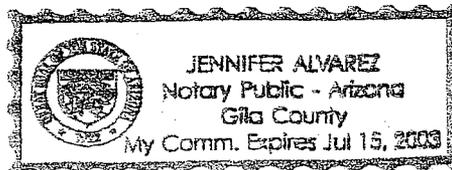
Ellen Kretsch, Publisher
Or authorized representative

State of Arizona
County of Gila

The foregoing instrument was acknowledged before me this 3-20-2002 (date) by Ellen Kretsch

Jennifer Alvarez
Jennifer Alvarez, Notary Public

My Commission Expires: July 15, 2003



State of Arizona
County of Pinal

JAMES CARNES b

deposes and says:

That he is one one of the publi
Basin News, a newspaper pi
Kearny, in the county of Pinal, St

ADEQ PUBLIC HEAR

a printed copy of which is he
published in all the regular
said newspaper (and not a supp

ONE

the dates of publication being

3/20/02

[Signature]

Subscribed and sworn to before

day of MARCH

[Signature]

Notary Public

My commission expires



PUBLIC NOTICE

ARIZONA DEPARTMENT
OF ENVIRONMENTAL
QUALITY
PUBLIC HEARING
ON PROPOSED
AMENDMENTS TO
ARIZONA
ADMINISTRATIVE CODE
R18-2-715 AND R18-2-715.01,
STANDARDS OF
PERFORMANCE FOR
EXISTING PRIMARY
COPPER SMELTERS, TO
INCORPORATE REDUCED
SULFUR DIOXIDE
EMISSIONS LIMITS FOR
THE COPPER SMELTERS
AT HAYDEN AND MIAMI,
ARIZONA

The Arizona Department of Environmental Quality (ADEQ) will hold two public hearings on its proposal to amend state regulations for copper smelters by incorporating reductions in emission limits for two smelters: one located near Hayden, Gila County, and one near Miami, Gila County. Because of measured exceedances of the national ambient air quality standards for sulfur dioxide (SO2), both the Hayden and the Miami areas were designated nonattainment for SO2 in 1979. The emissions limits contained in R18-2-715 were adopted in 1979 as a means of lowering stack emissions of SO2 from the smelters. Because the proposed revised rule will be a control measure in the air quality State Implementation and Maintenance Plans for the Hayden and Miami SO2, nonattainment areas, updated air quality impact analyses were performed for both smelters. These analyses demonstrate future air quality protection based on current and projected levels of operation. The new limits proposed in R18-2-715 demonstrate that the smelters are not expected to cause or contribute to a violation of the national ambient air quality standards for SO2. This rule revision is one step in the process to request that the US Environmental Protection Agency redesignate these areas to attainment. The new emission limits also require changes to the compliance methods in R18-2-715.01.

Additional amendments to R18-2-715 are proposed to update the rule to remove those subsections for smelters that are no longer operating. The rules subsections proposed for removal pertain to the defunct copper smelter of ASARCO, Inc., Ray Mines Division, in Hayden, Pinal County; the defunct copper smelter of Phelps Dodge Corporation, New Cornelia Branch in Ajo, Pima County; and for the defunct copper smelter of Phelps Dodge Corporation, Morenci Branch, in Morenci, Greenlee County.

A public hearing on the proposed rule revisions will be held on Tuesday, April 23, 2002, at 1:00 pm, Miami Town Hall, Council Chambers, 500 Sullivan Street, Miami, AZ 85539. A second hearing will be held on Wednesday, April 24, 2002, at 1:00 pm, Hayden Town Hall, Council Chambers, 520 Velasco Avenue, Hayden, AZ 85235. All interested parties will be given an opportunity at the public hearings to submit relevant comments, data, and views, orally and in writing. Written comments must be received at ADEQ by 5:00 pm on Thursday, April 25, 2002.

All written comments should be addressed, faxed, or emailed to MARK LEWANDOWSKI, Air Quality Planning Section, Arizona Department of Environmental Quality, 3033 N. Central Ave., T5109B, Phoenix, AZ 85012-2905, fax: (602) 207-2366, email: lewandowski.mark@ev.state.az.us.

The proposed rule can be found in the March 22, 2002, Arizona Administrative Register, which is on the web at www.sosaz.com/aar/. Copies of the proposal are also available for review beginning March 22, 2002, at the following locations: Arizona Department of Environmental Quality Library, First Floor, 3033 N. Central Avenue Phoenix, Arizona 85012 LORRAINE AKEY, (602) 207-4335 and Town of Miami, Office of the Clerk, 500 Sullivan Street Miami, Arizona 85539, MARGIE HENRY, (928) 473-4403; and Town of Hayden, Office of the Clerk, 520 Velasco Avenue, Hayden, Arizona: 85235, MARIA G. GARCIA, (520) 356-7801.

For further information, please contact Mark Lewandowski at 1 800-234-5677, ext. 2230.

CBN: 1 Pub
3/20/02
Legal Adv.

State of Arizona
County of Pinal

ss.

JAMES CARNES being first duly sworn
deposes and says:

That he is one one of the publishers of the Copper
Basin News, a newspaper published Weekly at
Kearny, in the county of Pinal, State of Arizona: that

ADEQ PUBLIC HEARING

a printed copy of which is hereto attached, was
published in all the regular Weekly editions of
said newspaper (and not a supplement thereof) for
ONE consecutive Weeks
the dates of publication being as follows, to-wit:

3/20/02

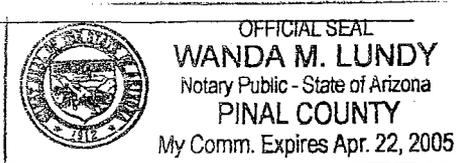
James Carnes

Subscribed and sworn to before me this 20

day of MARCH, 192002

Wanda M. Lundy
Notary Public

My commission expires



Part A.2.3

Public Hearing Agenda for Rulemaking



Jane Dee Hull
Governor

ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY

3033 North Central Avenue • Phoenix, Arizona 85012-2809
(602) 207-2300 • www.adeq.state.az.us



Jacqueline E. Schafer
Director

AIR QUALITY DIVISION

PUBLIC HEARINGS

on

Proposed Revisions to Arizona Administrative Code R18-2-715 and R18-2-715.01, Standards of Performance for Existing Primary Copper Smelters; Site-specific Requirements; Compliance and Monitoring

PLEASE NOTE THE MEETING LOCATIONS AND TIMES:

April 23, 2002, 1:00 p.m.

Miami Town Hall, Council Chambers, 500 Sullivan Street, Miami, AZ, 85539;

and

April 24, 2002, 1:00 p.m.

Hayden Town Hall, Council Chambers, 520 Velasco Avenue, Hayden, AZ, 85235

Pursuant to ARS § 49-425, notice is hereby given that the above referenced meeting is open to the public. Copies of the proposal are available for review at the Arizona Department of Environmental Quality Library, 3033 North Central Avenue, Phoenix, Arizona; Town of Miami, Office of the Clerk, 500 Sullivan Street, Miami, Arizona; and Town of Hayden, Office of the Clerk, 520 Velasco Avenue, Hayden, Arizona.

AGENDA

1. Welcome and Introductions
2. Purposes of the Oral Proceeding
3. Procedure for Making Public Comment
4. Brief Overview of the Proposed Rule Revision for Copper Smelters
5. Question and Answer Period
6. Oral Comment Period
7. Adjournment of Oral Proceeding

For additional information regarding the hearing, please call Mark Lewandowski, ADEQ Air Quality Division, at (602) 207-2230 or 1-800-234-5677, Ext. 2230.

Persons with a disability may request a reasonable accommodation, such as a sign language interpreter, by contacting Katie Huebner at (602) 207-4794 or 1-800-234-5677, Ext. 4794. Requests should be made as early as possible to allow sufficient time to make the arrangements for the accommodation. This document is available in alternative formats by contacting ADEQ TDD phone number at (602) 207-4829.

Northern Regional Office
1515 East Cedar Avenue • Suite F • Flagstaff, AZ 86004
(928) 779-0313

Southern Regional Office
400 West Congress Street • Suite 433 • Tucson, AZ 85701
(520) 628-6733

Part A.2.4

Public Hearing Sign In Sheet for Rulemaking



Arizona Department of Environmental Quality
Air Quality Division

Please Sign In

Standards of Performance for Existing Primary
SUBJECT Copper Smelters; Site-specific Requirements; Compliance and Monitoring DATE 4/23/2000

	NAME	ORGANIZATION	PHONE	FAX	E-MAIL
1.	Bob Rossler	PP Miami	(928) 473-7016	(928) 473-7191	presslere@phelps-dodge.com
2.	AL BINEGAR	PD Miami	928 473-7451	928473-7031	albinegar@phelps-dodge.com
3.	DAVID ALVAREZ	PD Miami	928-473-7466	928-473-7499	
4.	JOHN REICHENBACH	PD MIAMI	928-473-0418	"	"
5.	Wayne heipold	PD Miami	928-473-7149	"	wheipold@phelps-dodge.com
6.					
7.					
8.					

SIGN-IN SHEET
Hayden Public Hearing 4/24/2002

Ed Riege

John Saxe

JACK GARRITY

Neil Campbell

*transcript Mellie Acton P.O. Box 295 Hayden, AZ 85735

Howard Acton

Cassandra Joos

Part A.2.5

Public Hearing Officer Certification and Transcript for Rulemaking



Jane Dee Hull
Governor

ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY

3033 North Central Avenue • Phoenix, Arizona 85012-2809
(602) 207-2300 • www.adeq.state.az.us



Jacqueline E. Schafer
Director

AIR QUALITY DIVISION

Public Hearing Presiding Officer Certification

I, Andra Juniel, the designated Presiding Officer, do hereby certify that the public hearing held by the Arizona Department of Environmental Quality was conducted on April 23, 2002, in the Miami Town Hall, Council Chambers, Miami, Arizona, in accordance with public notice requirements by publication in the *Arizona Silver Belt* dated March 20, 2002, and the *Copper Basin News* dated March 20, 2002. Furthermore, I do hereby certify that the public hearing was recorded from the opening of the public record through concluding remarks and adjournment, and the transcript provided contains a full, true, and correct record of the above-referenced public hearing.

Dated this 18~~th~~ day of June, 2002.

Andra Juniel
Andra Juniel

State of Arizona)
) ss.
County of Maricopa)

Subscribed and sworn to before me by Andra Juniel this 18 day of June, 2002.



Notary Public State of Arizona
Maricopa County
Laura McFarland
Expires April 02, 2004

Laura M. Farland
Notary Public

My commission expires:

April 02, 2004

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ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY

PUBLIC HEARING

ON PROPOSED AMENDMENTS TO ARIZONA ADMINISTRATIVE CODE R18-2-715 AND R18-2-715.01, STANDARDS OF PERFORMANCE FOR EXISTING PRIMARY COPPER SMELTERS, TO INCORPORATE REDUCED SULFUR DIOXIDE EMISSIONS LIMITS FOR THE COPPER SMELTERS AT HAYDEN AND MIAMI, ARIZONA.

Miami, Arizona

April 23, 2002

1:14 P.M.

APR 23 2002
1:14 PM
MARIANA

PRESENT FOR ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY:

- ANDRA JUNIEL Planner II
- BRUCE FRIEDL Environmental Program Specialist
- THERESA PELLA Manager, Air Planning Section
- MIKE GEORGE Manager, Air Quality Assessment

ORIGINAL

Reported by Florence Pasteur, CCR, RPR

for:

SILVERMAN & GARWOOD
Court Reporting Service
(520) 792-2600 or (800) 759-9075

CONFERENCE ROOMS:	MAILING ADDRESS:
Suite 200	P.O. Box 17507
177 North Church Avenue	Tucson, Arizona 85731

1 MR. JUNIEL: Good afternoon, ladies and
 2 gentlemen. I now open this oral proceeding on proposed
 3 revisions to the air pollution control rules for
 4 existing primary copper smelters in accordance with
 5 Arizona Revised Statute Section 41-1023.

6 It is now April 23rd, 2002 at 1:14 p.m.
 7 The location is the Miami Town Hall, Council Chambers,
 8 Located at 500 Sullivan Street, Miami, Arizona 85539.

9 My name is Andra Juniel, and I have been
 10 appointed by the Director of the Arizona Department of
 11 Environmental Quality, ADEQ, to preside at this
 12 proceeding.

13 The purposes of this proceeding are to
 14 provide the public an opportunity: one, to hear about
 15 the substance of the proposed changes in the rules for
 16 copper smelters; two, to ask questions regarding the
 17 proposed changes; and, three, to present oral argument,
 18 data and views regarding the proposed changes in the
 19 form of comments on the record.

20 Representing the Department are myself;
 21 Mike George, Manager, Air Quality Assessment Section;
 22 Theresa Pella, Manager, Air Quality Planning Section;
 23 and Bruce Friedl, Air Quality Planning Section.

24 The procedure for making a public comment
 25 on the record is straightforward. If you wish to

1 comment, you need to fill out a speaker slip, which is
2 available at the sign-in table, and give it to me.

3 Using speaker slips allows everyone an
4 opportunity to be heard and allows us to match the name
5 on the official record with the comments.

6 You may also submit written comments in
7 person to me today or by mail, fax, or e-mail to
8 Mr. Mark Lewandowski by the end of the comment period.
9 The end of the comment period is 5:00 p.m. on
10 April 25th, 2002. If mailed, faxed or e-mailed, written
11 comments must be postmarked by April 25th, 2002.

12 Submit your written comments to Mark
13 Lewandowski -- that's L-e-w-a-n-d-o-w-s-k-i -- Air
14 Quality Planning Section, Arizona Department of
15 Environmental Quality, 3033 North Central Avenue,
16 T5109B, Phoenix, Arizona 85012. Fax: 602-207-2366.
17 E-mail: Lewandowski -- L-e-w-a-n-d-o-w-s-k-i -- dot
18 Mark -- M-a-r-k -- @ e-v -- v as in Victor -- dot state
19 dot AZ -- Z as in Zebra -- dot US.

20 Comments made during the formal comment
21 period are required by law to be considered by the
22 Department in the preparation of the final rule. This
23 is done through the preparation of a concise explanatory
24 statement in which the Department responds in writing to
25 written and oral comments made during the formal comment

1 period.

2 The agenda for this hearing is simple:
3 First Mr. Friedl will present a brief overview of the
4 proposed rule revisions.

5 Next, I will conduct a question and answer
6 period, if requested. The purpose of the question and
7 answer period is to provide information that may help
8 you in making comments on the proposed rule revisions.

9 Third, I will conduct a formal oral
10 comment period. At that time I will begin to call
11 speakers in the order that I have received speaker
12 slips.

13 Please be aware that any comments you make
14 at today's hearing that you want the Department to
15 formally consider must be given either in writing or on
16 the record during the oral comment portion of this
17 proceeding.

18 At this time I will ask Mr. Friedl to give
19 a brief overview of the proposed rule revisions.

20 MR. FRIEDL: The Arizona Department of
21 Environmental Quality is proposing to revise state
22 regulations to limit sulfur dioxide emissions applicable
23 to two copper smelters, one located in Hayden, Gila
24 County, and one located in Miami, Gila County.

25 The Hayden smelter is currently owned and

1 operated by ASARCO, Incorporated, and the Miami smelter,
2 by Phelps Dodge Miami, Incorporated.

3 Because of measured exceedances of the
4 national ambient air quality standards for sulfur
5 dioxide, both the Hayden and the Miami areas were
6 designated nonattainment for sulfur dioxide in 1979.

7 The existing emissions limits contained in
8 Arizona Administrative Code R18-2-715 were adopted in
9 1979 to ensure lower stack emissions of sulfur dioxide
10 from the smelters.

11 Because the rule will be a control measure
12 for the air quality State Implementation and
13 Maintenance Plans for the Hayden and Miami areas,
14 updated air quality impact analyses became necessary for
15 both smelters. The results of these analyses
16 demonstrate that current and expected future operation
17 levels will ensure sulfur dioxide emissions will remain
18 below the federal health base standards.

19 For the Hayden smelter, the rule
20 incorporates lower sulfur dioxide stack emission limits
21 and adds new limits for fugitive emissions. For the
22 Miami smelter, the rule incorporates lower sulfur
23 dioxide stack emission limits and includes an overall
24 combined limit for stack and fugitive sources.

25 The new limits for both the Hayden and

1 Miami smelters also require minor changes to the
2 compliance and monitoring provisions in Arizona Rule
3 R18-2-715.01.

4 Additional revisions to R18-2-715 are
5 proposed to update the rule to remove those sections
6 with emissions limits for smelters that are no longer
7 operating.

8 The rule sections proposed for removal are
9 for the defunct copper smelters of: one, ASARCO
10 Incorporated, Ray Mines Division, Hayden, Pinal County
11 -- actually, Gila County; two, Phelps Dodge Corporation,
12 New Cornelia Branch in Ajo, Pima County; and, three,
13 Phelps Dodge Corporation, Morenci branch, in Morenci,
14 Greenlee County.

15 This concludes the explanation period of
16 this proceeding on the proposed revisions to the air
17 pollution control rules for existing primary copper
18 smelters.

19 MR. JUNIEL: The Arizona Department of
20 Environmental Quality is proposing to revise state
21 regulations to...

22 Are there any questions before we move to
23 the oral comment period?

24 (No response.)

25 MR. JUNIEL: Hearing none, this concludes

1 the question and answer period of this hearing on the
2 proposed rule.

3 I now open the oral comment portion of
4 this hearing.

5 Seeing no speaker slips, this concludes
6 the oral comment period of this hearing.

7 I encourage everyone to submit written
8 comments on the proposed rule. Your participation is an
9 essential part of the rule-making process.

10 Thank you for attending.

11 The time is now 1:24. I now close this
12 oral proceeding.

13 (At the hour of 1:24 p.m. the
14 public hearing was concluded.)

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C E R T I F I C A T E

BE IT KNOWN that I, Florence Pasteur,
CCR #50300, took the foregoing public hearing pursuant
to notice at the time and place stated in the caption
hereto; that I was then and there a Certified Court
Reporter in and for the County of Pima, State of
Arizona; and the foregoing pages contain a full, true
and accurate transcription of my notes of said public
hearing.

Dated this 6th day of May 2002.



FLORENCE PASTEUR, CCR #50300



Jane Dee Hull
Governor

ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY

3033 North Central Avenue • Phoenix, Arizona 85012-2809
(602) 207-2300 • www.adeq.state.az.us



Jacqueline E. Schafer
Director

AIR QUALITY DIVISION

Public Hearing Presiding Officer Certification

I, Andra Juniel, the designated Presiding Officer, do hereby certify that the public hearing held by the Arizona Department of Environmental Quality was conducted on April 24, 2002, in the Hayden Town Hall, Council Chambers, Hayden, Arizona, in accordance with public notice requirements by publication in the *Arizona Silver Belt* dated March 20, 2002, and the *Copper Basin News* dated March 20, 2002. Furthermore, I do hereby certify that the public hearing was recorded from the opening of the public record through concluding remarks and adjournment, and the transcript provided contains a full, true, and correct record of the above-referenced public hearing.

Dated this 18th day of June, 2002.

Andra Juniel
Andra Juniel

State of Arizona)
) ss.
County of Maricopa)

Subscribed and sworn to before me by Andra Juniel this 18 day of June 2002.



Notary Public State of Arizona
Maricopa County
Laura McFarland
Expires April 02, 2004

Laura McFarland
Notary Public

My commission expires:

April 02, 2004

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ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY
PUBLIC HEARING

ON PROPOSED AMENDMENTS TO ARIZONA ADMINISTRATIVE CODE
R18-2-715 AND R18-2-715.01, STANDARDS OF PERFORMANCE FOR
EXISTING PRIMARY COPPER SMELTERS, TO INCORPORATE REDUCED
SULFUR DIOXIDE EMISSIONS LIMITS FOR THE COPPER SMELTERS
AT HAYDEN AND MIAMI, ARIZONA.

Hayden, Arizona
April 24, 2002
1:11 P.M.

ORIGINAL

APR 24 2002
1:11 PM
ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY

PRESENT FOR ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY:

- ANDRA JUNIEL Planner II
- BRUCE FRIEDL Environmental Program Specialist
- THERESA PELLA Manager, Air Planning Section
- MIKE GEORGE Manager, Air Quality Assessment

Reported by Olivia Armenta, CCR #50411

for:

SILVERMAN & GARWOOD
Court Reporting Service
(520) 792-2600 or (800) 759-9075

CONFERENCE ROOMS:	MAILING ADDRESS:
Suite 200	P.O. Box 17507
177 North Church Avenue	Tucson, Arizona 85731

1 MR. JUNIEL: Good afternoon, ladies and
 2 gentlemen. I now open this oral proceeding on proposed
 3 revisions to air pollution control rules for existing
 4 primary copper smelters in accordance with Arizona
 5 Revised Statute Section 41-1023.

6 It is now April 24th, 2002 at 1:11 p.m. The
 7 location is Hayden Town Hall, Council Chambers, located
 8 at 520 Velasco Avenue, Hayden, Arizona.

9 My name is Andra Juniel, and I have been
 10 appointed by the Director of the Arizona Department of
 11 Environmental Quality, ADEQ, to preside at this
 12 proceeding.

13 The purposes of this proceeding are to provide
 14 the public an opportunity: One, to hear about the
 15 substance of the proposed changes in the rules for copper
 16 smelters; two, to ask questions regarding the proposed
 17 changes; and, three, to present oral argument, data, and
 18 views regarding the proposed changes in the form of
 19 comments on the record.

20 Representing the Department are myself; Mike
 21 George, Manager, Air Quality Assessment Section; Theresa
 22 Pella, Manager, Air Quality Planning Section; and Bruce
 23 Friedl, Air Quality Planning Section.

24 The procedure for making a public comment on the
 25 record is straightforward. If you wish to comment, you

1 need to fill out a speaker slip, which is available at
2 the sign-in table, and give it to me.

3 Using the speaker slips allows everyone an
4 opportunity to be heard and allow us to match the name on
5 the official record with the comments.

6 You may also submit written comments in person
7 to me today, or by mail, fax, or e-mail to Mr. Mark
8 Lewandowski by the end of the comment period. The end of
9 the comment period is 5:00 p.m. on April 25th, 2002. If
10 mailed, faxed, or e-mailed, written comments must be
11 postmarked by April 25th, 2002.

12 Submit your written comments to Mark
13 Lewandowski, L-e-w-a-n-d-o-w-s-k-i, Air Quality Planning
14 Section, Arizona Department of Environmental Quality,
15 3033 North Central Avenue, T5109B, Phoenix, Arizona,
16 85012, fax 602-207-2366, e-mail lewandowski,
17 l-e-w-a-n-d-o-w-s-k-i, dot mark, m-a-r-k, @ e-v, as in
18 Victor, dot state dot AZ dot US.

19 Comments made during the formal comment period
20 are required by law to be considered by the Department in
21 the preparation of the final rule. This is done through
22 the preparation of the concise explanatory statement in
23 which the Department responds in writing to written and
24 oral comments made during the formal comment period.

25 The agenda for this hearing is simple. First,

1 Mr. Friedl will present a brief overview of the proposed
2 rule revisions.

3 Next, I will conduct a question and answer
4 period if requested. The purpose of the question and
5 answer period is to provide information that may help you
6 in making comments on the proposed rule revisions.

7 Third, I will conduct a formal oral comment
8 period. At that time I will begin to call speakers in
9 the order that I have received speaker slips.

10 Please be aware that any comments you make at
11 today's hearing that you want the Department to formally
12 consider must be given either in writing or on the record
13 during the oral comment portion of this proceeding.

14 At this time I will ask Mr. Friedl to give a
15 brief overview of the proposed rule revisions.

16 MR. FRIEDL: The Arizona Department of
17 Environmental Quality is proposing to revise State
18 regulations to limit sulfur dioxide emissions applicable
19 to two copper smelters, one located in Hayden, Gila
20 County, one located in Miami, Gila County.

21 The Hayden smelter is currently owned and
22 operated by ASARCO, Incorporated, and the Miami smelter
23 by Phelps Dodge Miami, Incorporated.

24 Because of measured exceedances of the national
25 ambient air quality standards for sulfur dioxide, both

1 the Hayden and the Miami areas were designated
2 nonattainment for sulfur dioxide in 1979.

3 The existing emissions limits contained in
4 Arizona Administrative Code R18-2-715 were adopted in
5 1979 to ensure lower stack emissions of sulfur dioxide
6 from the smelters.

7 Because the rule will be a control measure for
8 the air quality State Implementation and Maintenance
9 Plans for the Hayden and Miami areas, updated air quality
10 impact analyses became necessary for both smelters. The
11 results of these analyses demonstrate that current and
12 expected future operation levels will ensure sulfur
13 dioxide emissions will remain below the federal health
14 based standards.

15 For the Hayden smelter, the rule incorporates
16 lower sulfur dioxide stack emission limits and adds new
17 limits for fugitive emissions. For the Miami smelter,
18 the rule incorporates lower sulfur dioxide stack emission
19 limits and includes an overall combined limit for stack
20 and fugitive sources.

21 The new limits for both the Hayden and Miami
22 smelters also require minor changes to the compliance and
23 monitoring provisions in Arizona Rule R18-2-715.01.

24 Additional revisions to R18-2-715 are proposed
25 to update the rule to remove those sections with

1 emissions limits for smelters that are no longer
2 operating.

3 The rule sections proposed for removal are for
4 the defunct copper smelters of: One, ASARCO,
5 Incorporated, Ray Mines division in the Hayden, Pinal
6 County; two, Phelps-Dodge Corporation, New Cornelia
7 Branch in Ajo, Pima County; and, three, Phelps-Dodge
8 Corporation, Morenci Branch in Morenci, Greenlee County.

9 This concludes the explanation period of this
10 proceeding on the proposed revisions to the air pollution
11 control limits for existing primary copper smelters.

12 MR. JUNIEL: Are there any questions before we
13 move to the oral comment period?

14 GENTLEMAN I: I would like to make one
15 correction. The smelter that is being closed is in Gila
16 County, not Pinal County, unless you guys have moved --
17 unless they moved the boundaries on me, the old Kennicott
18 Building.

19 MR. JUNIEL: You're correct.

20 MS. PELLA: You're correct, the old Kennicott
21 smelter in North Hayden. You're correct. Thank you for
22 bringing that to our attention.

23 MR. JUNIEL: Are there any other questions?

24 (No response.)

25 MR. JUNIEL: If not, this concludes the question

1 and answer period of this hearing on the proposed rule.

2 I now open the oral comment portion of this
3 hearing.

4 Does anyone want to speak at this time?

5 (No response.)

6 MR. JUNIEL: If not, this concludes the oral
7 comment period of this hearing.

8 I encourage everyone to submit written comments
9 on the proposed rule. Your participation is an essential
10 part of the rule-making process.

11 Thank you for attending.

12 The time is now 1:23 p.m. I now close this oral
13 proceeding.

14 (At the hour of 1:23 p.m. the
15 public hearing was concluded.)

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C E R T I F I C A T E

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BE IT KNOWN that I, Olivia Armenta, CCR #50411, took the foregoing public hearing pursuant to notice at the time and place stated in the caption hereto; that I was then and there a Certified Court Reporter in and for the County of Pima, State of Arizona; and the foregoing pages contain a full, true and accurate transcription of my notes of said public hearing.

Dated this 7th day of May 2002.


OLIVIA ARMENTA, CCR #50411

Part A.2.6

Draft Notice of Final Rulemaking

Public hearings for this rule were held on April 23, 2002, and April 24, 2002 (See Appendix A.2, Part A.2.1 through A.2.5 for information regarding the proposed rulemaking phase). The Arizona Department of Environmental Quality (ADEQ) has submitted the rule to the Governor's Regulatory Review Council (GRRC) for consideration of approval, the final step in the rulemaking process. ADEQ anticipates submittal of the approved final rule to the U.S. Environmental Protection Agency by late summer 2002.

(SO₂), both the Hayden and the Miami areas were designated nonattainment for SO₂ in 1979. The emissions limits that were previously in R18-2-715 were adopted in 1979 as a means of lowering stack emissions of SO₂ from the smelters. Because R18-2-715 will be a control measure for the air quality State Implementation and Maintenance Plans (SIPs) for the Hayden and Miami SO₂ nonattainment areas, updated air quality impact analyses were performed for both smelters. These analyses demonstrate future air quality protection based on current and expected future operation levels. The new limits finalized in R18-2-715 demonstrate that the smelters are not expected to cause or contribute to a violation of the national ambient air quality standards for SO₂.

For the Hayden smelter, the rule incorporates lower SO₂ stack emission limits and adds new limits for fugitive emissions. For the Miami smelter, the rule incorporates lower SO₂ stack emission limits and includes an overall combined limit for stack and fugitive sources. The rule revisions for the Miami smelter correspond to limits already contained in the facility's permit. The new limits for both the Hayden and Miami smelters also required minor changes to the compliance and monitoring provisions in R18-2-715.01.

Additional amendments to R18-2-715 were made to update the rule by removing those sections with emissions limits for smelters that are no longer operating. The rule sections removed were: R18-2-715(F)(3) for the defunct copper smelter of ASARCO, Inc., Ray Mines Division in Hayden, Pinal County; R18-2-715(F)(5) for the defunct copper smelter of Phelps Dodge Corporation, New Cornelia Branch in Ajo, Pima County; and R18-2-715(F)(6) for the defunct copper smelter of Phelps Dodge Corporation, Morenci Branch in Morenci, Greenlee County.

7. A reference to any study that the agency relied on its evaluation of or justification for the final rules and where the public may obtain or review the study, all data underlying each study, any analysis of the study and other supporting material:

Not Applicable

8. A showing of good cause why the rules are necessary to promote a statewide interest if the rules will diminish a previous grant of authority of a political subdivision of the state:

Not Applicable

9. The summary of the economic, small business, and consumer impact:

This rule is primarily a source-specific rulemaking pertaining to the smelter located in Hayden, Gila County, and the smelter located in Miami, Gila County. The Hayden smelter is currently owned and operated by ASARCO Incorporated. The Miami smelter is currently owned and operated by Phelps Dodge Corporation. The Hayden and Miami facilities are classified as major sources for sulfur dioxide and both areas are designated as nonattainment for sulfur dioxide. This rule incorporates lower emissions limits for sulfur dioxide applicable to both smelters.

Subsequent to codification of the rule in 1979, numerous improvements have been implemented at the smelters. ASARCO representatives indicated that more than \$123,000,000 was spent in upgrading and rebuilding the facility since 1983 for various reasons, including replacing outdated and worn out equipment and introducing more efficient technology. The changes include improved emissions collection systems, process and control technology, as well as implementation of an improved data collection, record-keeping, and reporting infrastructure. Similar improvements at the Miami facility are reported by Phelps Dodge representatives to have cost more than \$100,000,000.

The current rule revisions are not expected to result in significant additional costs to either smelter. As previously explained, expenditures for emissions collection and control technology have already been incurred and are not attributed to the current rulemaking. No additional labor needs will be generated by the rule. The new emission limits may, however, require updates of the existing data collection, record-keeping, and reporting infrastructure. Representatives of the ASARCO smelter at Hayden report an estimated one-time expenditure of \$5,000 to \$10,000 for computer software. Similar data collection and reporting upgrades at the Miami smelter are estimated by representatives of Phelps Dodge to also be a one-time expenditure, at a cost of \$4,000 to \$6,000.

The exemption of steam generation from the counting of SO₂ emissions in R18-2-715.01(T) and (U) will not have an economic impact on sources since emissions from steam generation, including limits on SO₂, are already covered under R18-2-703.

The Arizona Department of Environmental Quality does not anticipate that the rule changes applicable to the closed smelters will have any substantive economic impact. In all cases, the local

citizens may benefit because of lower social costs associated with improved air quality.

Impact on Small Business.

A.R.S. § 41-1055(B)(5) requires agencies to state the probable impact of a rulemaking on small businesses. A.R.S. § 41-1035 requires agencies to reduce the impact of a rule on small businesses by using certain methods when they are legal and feasible in meeting the statutory objectives for the rulemaking. "Small business" is defined in A.R.S. § 41-1001 as "a concern, including its affiliates, which is independently owned and operated, which is not dominant in its field and which employs fewer than one hundred full-time employees or which had gross annual receipts of less than four million dollars in its last fiscal year. For purposes of a specific rule, an agency may define small business to include more persons if it finds that such a definition is necessary to adapt the rule to the needs and problems of small businesses and organizations." Based on the number and size of Arizona copper smelters, ADEQ has determined that this rule does not impact any small businesses.

10. A description of the changes between the proposed rules, including supplemental notices, and final rules:

The only changes made between the proposed rule and the rule submitted to the Council were in R18-2-715(F)(2) and (G)(2), and R18-2-715.01(T) and (U). The changes are shown below with strike out (~~strike out~~) and underline.

R18-2-715. Standards of Performance for Existing Primary Copper Smelters; Site-specific Requirements

- A. No change
- B. No change
- C. No change
- D. No change
- E. No change
- F. Except as provided in a consent decree or a delayed compliance order, the owner or operator of any primary copper smelter shall not discharge or cause the discharge of sulfur dioxide into the atmosphere from any stack required to be monitored by R18-2-715.01(K) in excess of the following:

1. For the copper smelter located near San Manuel, Arizona at latitude 32°36'58"N and longitude 110°37'19"W:
 - a. Annual average emissions, as calculated under R18-2-715.01(C), shall not exceed 1,742 pounds per hour.
 - b. The number of three-hour average emissions, as calculated under R18-2-715.01(C), shall not exceed n cumulative occurrences in excess of E, the emission level, shown in the following table in any compliance period as defined in R18-2-715.01(J):

n, Cumulative Occurrences	E, (lb/hr)
0	9803
1	8253
2	7619
4	6072
7	5660
12	4922
20	4515
32	4272
48	3945
68	3727
94	3568
130	3419
180	3253
245	3101
330	2958
435	2831
560	2712
710	2615
890	2525
1100	2440
1340	2366
1610	2290
1910	2216
2240	2142

2. For the copper smelter located near Hayden, Arizona at latitude 33° 0' 29" N and longitude 110° 47' 17" W:

- a. Annual average emissions, as calculated under R18-2-715.01(C), shall not exceed ~~7066~~ 6882 pounds per hour.
- b. The number of three-hour average emissions, as calculated under R18-2-715.01(C), shall not exceed n cumulative occurrences in excess of E, the emission level, shown in the following table in any compliance period as defined in R18-2-715.01(J):

n, Cumulative Occurrences	E, (lb/hr)	
0	25,300	<u>24,641</u>
1	23,585	<u>22,971</u>
2	22,285	<u>21,705</u>
4	20,830	<u>20,322</u>
7	19,834	<u>19,387</u>
12	19,177	<u>18,739</u>
20	18,079	<u>17,656</u>
32	17,407	<u>16,988</u>
48	16,752	<u>16,358</u>
68	16,130	<u>15,808</u>
94	15,458	<u>15,090</u>
130	14,803	<u>14,423</u>
180	14,129	<u>13,777</u>
245	13,540	<u>13,212</u>
330	12,987	<u>12,664</u>
435	12,438	<u>12,129</u>
560	11,919	<u>11,621</u>
710	11,457	<u>11,165</u>
890	10,934	<u>10,660</u>
1100	10,472	<u>10,205</u>
1340	9,999	<u>9,748</u>
1610	9,562	<u>9,319</u>
1910	9,185	<u>8,953</u>
2240	8,778	<u>8,556</u>

3. For the copper smelter located near Miami, Arizona at latitude 33° 24' 50" N and longitude 110° 51' 25" W:

- a. Annual average emissions, as calculated under R18-2-715.01(C), shall not exceed 604 pounds per hour.
- b. The number of three-hour average emissions, as calculated under R18-2-715.01(C), shall not exceed n cumulative occurrences in excess of E, the emission level, shown in the following table in any compliance period as defined in R18-2-715.01(J):

n, Cumulative Occurrences	E, (lb/hr)
0	8,678
1	7,158
2	5,903
4	4,575
7	4,074
12	3,479
20	3,017
32	2,573
48	2,111
68	1,703
94	1,461
130	1,274
180	1,145
245	1,064
330	1,015
435	968
560	933
710	896
890	862
1100	828
1340	797
1610	765
1910	739
2240	712

G. Except as provided in a consent decree or a delayed compliance order, the owner or operator of the

copper smelters listed below shall not discharge or cause the discharge of fugitive sulfur dioxide into the atmosphere in excess of the following:

1. For the copper smelter located near San Manuel, Arizona at latitude 32°36'58"N and longitude 110°37'19"W:
 - a. Annual average emissions calculated under R18-2-715.01(R) shall not exceed 715 pounds per hour for converter roof fugitive emissions; and
 - b. The number of three-hour average emissions for converter roof fugitive emissions, calculated under R18-2-715.01(R) shall not exceed n cumulative occurrences in excess of E_p , the emission level, shown in the following table in any compliance period as defined in R18-2-715.01(R)(8):

n, Cumulative Occurrences	E_p (lb/hr)
0	4462
1	4299
2	4222
4	4017
7	3867
12	3460
20	3179
32	3000
48	2827
68	2649
94	2523
130	2361
180	2218
245	2072
330	1923
435	1785
560	1644
710	1517
890	1402
1100	1300
1340	1208
1610	1121
1910	1039
2240	957

2. For the copper smelter located near Hayden, Arizona at latitude 33° 0' 29"N and longitude 110° 47' 17"W, annual average fugitive emissions calculated under R18-2-715.01(T) shall not exceed ~~582~~ 295 pounds per hour.

H. In addition to the limits in subsection (F)(3), except as provided in a consent decree or a delayed compliance order, the owner or operator of the copper smelter located near Miami, Arizona at latitude 33° 24' 50"N and longitude 110° 51' 25"W shall not discharge or cause the discharge of sulfur dioxide into the atmosphere from combined stack and fugitive emissions units in excess of the 2420 pounds per hour annual average calculated under R18-2-715.01(U).

R18-2-715.01. Standards of Performance for Existing Primary Copper Smelters; Compliance and Monitoring

- A. No change
- B. No change
- C. No change
- D. No change
- E. No change
- F. No change
- G. No change
- H. No change
- I. No change
- J. No change
- K. No change
- L. No change
- M. No change
- N. No change
- O. No change
- P. No change
- Q. No change
- R. No change
- S. No change

- T. The emission limit in R18-2-715(G)(2) applies to the total of uncaptured fugitive sulfur dioxide emissions from the smelter processing units and sulfur dioxide control and removal equipment, but not emissions due solely to the use of fuel for space heating or steam generation. The owner or operator shall determine compliance with the emission limit contained in R18-2-715(G)(2) as follows:
1. The owner or operator shall calculate annual average fugitive emissions at the end of the last day of each month by averaging the monthly emissions for the previous 12-month period ending on that day. ~~As a means of determining~~ To determine monthly fugitive emissions, the owner or operator shall perform material balances for sulfur according to the sulfur balance procedures prescribed in Appendix 8 of this Chapter.
 2. An annual emissions average in excess of the allowable annual average emission limit ~~is a violation of~~ violates R18-2-715(G)(2) if the fugitive annual average computed at the end of each month exceeds the allowable annual average emission limit.
- U. The emission limit in R18-2-715(H) applies to the total of stack and uncaptured fugitive sulfur dioxide emissions from the smelter processing units and sulfur dioxide control and removal equipment, but not emissions due solely to the use of fuel for space heating or steam generation. The owner or operator shall determine compliance with the emission limit contained in R18-2-715(H) as follows:
1. The owner or operator shall calculate annual average stack emissions at the end of the last day of each month by averaging the emissions for all hours measured during the previous 12-month period ending on that day according to the requirements contained in subsection (K).
 2. The owner or operator shall calculate annual average fugitive emissions at the end of the last day of each month by averaging the monthly emissions for the previous 12-month period ending on that day. ~~As a means of determining~~ To determine monthly fugitive emissions, the owner or operator shall perform material balances for sulfur according to the sulfur balance procedures prescribed in Appendix 8 of this Chapter.
 3. An annual emissions average in excess of the allowable annual average emission limit ~~is a violation of~~ violates R18-2-715(H) if the total of the stack and fugitive annual averages computed at the end of each month exceeds the allowable annual average emission limit.

11. A summary of the principal comments and the agency response to them:

ADEQ received one comment letter from ASARCO Inc. on the proposed rule.

Comment 1: The limits proposed in the rule were based on an air quality impact analysis that used recent calculated emission levels for the smelter. Since the time of the proposed rule, ASARCO completed a more detailed analysis of the methods of calculating certain emissions for the facility than the analysis used to calculate emission limits in the proposed rule. The original analysis did not reflect the process modifications completed since 1998. ASARCO has found that due to process modifications at the smelter, a portion of the smelter's emissions were overestimated in the original assessment. The company requested specific lower emission limits in R18-2-715(F)(2) and in R18-2-715(G)(2) to reflect the updated analysis.

Response 1: ADEQ has reviewed the information provided by the company and agrees that because of process modifications and improvements to emission controls at the smelter an update of the calculation method and subsequent emission limits is necessary. ADEQ has, therefore, included the requested reduced emission limits in R18-2-715(F)(2) and R18-2-715(G)(2).

12. Any other matters prescribed by statute that are applicable to the specific agency or to any specific rule or class of rules:

Not Applicable

13. Incorporations by reference and their location in the rules:

None

14. Were the rules previously adopted as emergency rules?

No

15. The full text of the rules follows:

TITLE 18. ENVIRONMENTAL QUALITY
CHAPTER 2. DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR POLLUTION CONTROL

ARTICLE 7. EXISTING STATIONARY SOURCE PERFORMANCE STANDARDS

Section

R18-2-715. Standards of Performance for Existing Primary Copper Smelters;
Site-specific Requirements

R18-2-715.01 Standards of Performance for Existing Primary Copper Smelters;
Compliance and Monitoring

ARTICLE 7. EXISTING STATIONARY SOURCE PERFORMANCE STANDARDS

R18-2-715. Standards of Performance for Existing Primary Copper Smelters; Site-specific Requirements

- A.** No change
- B.** No change
- C.** No change
 - 1. No change
 - a. No change
 - b. No change
 - 2. No change
- D.** No change
- E.** No change
 - 1. No change
 - 2. No change
- F.** Except as provided in a consent decree or a delayed compliance order, the owner or operator of any primary copper smelter shall not discharge or cause the discharge of sulfur dioxide into the atmosphere from any stack required to be monitored by R18-2-715.01(K) in excess of the following:
 - 1. For the copper smelter located near San Manuel, Arizona at latitude 32°36'58"N and longitude 110°37'19"W:
 - a. Annual average emissions, as calculated under R18-2-715.01(C), shall not exceed 1,742 pounds per hour.
 - b. The number of three-hour average emissions, as calculated under R18-2-715.01(C), shall not exceed n cumulative occurrences in excess of E, the emission level, shown in the following table in any compliance period as defined in R18-2-715.01(J):

n, Cumulative Occurrences	E, (lb/hr)
0	9803
1	8253

2	7619
4	6072
7	5660
12	4922
20	4515
32	4272
48	3945
68	3727
94	3568
130	3419
180	3253
245	3101
330	2958
435	2831
560	2712
710	2615
890	2525
1100	2440
1340	2366
1610	2290
1910	2216
2240	2142

2. For the copper smelter of ASARCO Inc., Hayden located near Hayden, Arizona at latitude 33° 0' 29" N and longitude 110° 47' 17" W:
- Annual average emissions, as calculated pursuant to under R18-2-715.01(C) through (F), shall not exceed ~~9,521~~ 6,882 pounds per hour.
 - The number of three-hour average emissions, as calculated pursuant to under R18-2-715.01(C) through (F), shall not exceed n cumulative occurrences in excess of E, the emission level, shown in the following table in any compliance period as defined in R18-2-715.01(J):

<u>n,</u> <u>Cumulative</u> <u>Occurrences</u>	<u>E,</u> <u>(lb/hr)</u>	
0	38,000	<u>24,641</u>
1	36,000	<u>22,971</u>
2	34,000	<u>21,705</u>

4	32,000	20,322
7	30,500	19,387
12	28,800	18,739
20	27,300	17,656
32	26,000	16,988
48	25,000	16,358
68	23,800	15,808
94	22,700	15,090
130	21,500	14,423
180	20,500	13,777
245	19,300	13,212
330	18,500	12,664
435	17,500	12,129
560	16,700	11,621
710	16,000	11,165
890	15,000	10,660
1100	14,200	10,205
1340	13,500	9,748
1610	12,800	9,319
1910	12,200	8,953
2240	11,500	8,556

3. For the copper smelter of ASARCO, Inc., Ray Mines Division:

- a. Annual average emissions, as calculated pursuant to R18-2-715.01(C) through (J), shall not exceed 7,790 pounds per hour.
- b. The number of 3-hour average emissions, as calculated pursuant to R18-2-715.01(C) through (J), shall not exceed n cumulative occurrences in excess of E, the emission level, shown in the following table in any compliance period:

n	E, (lb/hr)
0	34,000
1	32,000
2	30,000
4	28,500
7	26,800
12	25,300
20	24,000
32	22,800
48	21,700

68	20,700
94	19,700
130	18,700
180	17,700
245	16,700
330	15,700
435	15,200
560	14,400
710	13,500
890	12,700
1100	12,000
1340	11,200
1610	10,500
1910	10,000
2240	9,500

4. 3. For the copper smelter of Cyprus Miami Mining Corporation, Miami located near Miami, Arizona at latitude 33° 24' 50" N and longitude 110° 51' 25" W:

- a. Annual average emissions, as calculated pursuant to under R18-2-715.01(C) through (J), shall not exceed ~~3,163~~ 604 pounds per hour.
- b. The number of ~~3-hour~~ three-hour average emissions, as calculated pursuant to under R18-2-715.01(C) through (J), shall not exceed n cumulative occurrences in excess of E, the emission level, shown in the following table in any compliance period as defined in R18-2-715.01(J):

<u>n_c</u> <u>Cumulative</u> <u>Occurrences</u>	<u>E_c</u> <u>(lb/hr)</u>	
0	16,900	8678
1	15,800	7158
2	14,750	5903
4	13,900	4575
7	13,100	4074
12	12,250	3479
20	11,500	3017
32	10,800	2573
48	10,250	2111
68	9,750	1703

94	9,250	1461
130	8,700	1274
180	8,200	1145
245	7,600	1064
330	7,200	1015
435	6,750	968
560	6,300	933
710	5,800	896
890	5,500	862
1100	5,200	828
1340	4,800	797
1610	4,500	765
1910	4,100	739
2240	3,800	712

5. For the copper smelter of Phelps Dodge Corporation, New Cornelia Branch:

- a. Annual average emissions, as calculated pursuant to R18-2-715.01(C) through (J), shall not exceed 8,900 pounds per hour.
- b. The number of 3-hour average emissions, as calculated pursuant to R18-2-715.01(C) through (J), shall not exceed n cumulative occurrences in excess of E, the emission level, shown in the following table in any compliance period:

n	E, (lb/hr)
0	37,000
1	35,000
2	32,500
4	31,000
7	29,000
12	27,500
20	26,000
32	25,000
48	23,500
68	22,500
94	21,500
130	20,500
180	19,500

245	18,500
330	17,500
435	17,000
560	16,000
710	15,000
890	14,250
1100	13,500
1340	12,500
1610	12,000
1910	11,000
2240	10,500

6. For the copper smelter of Phelps Dodge Corporation, Morenci Branch:

- a. Annual average emissions, as calculated pursuant to R18-2-715.01(C) through (J), shall not exceed 10,505 pounds per hour.
- b. The number of 3-hour average emissions, as calculated pursuant to R18-2-715.01(C) through (J), shall not exceed n cumulative occurrences in excess of E, the emissions level, shown in the following table in any compliance period:

n	E, (lb/hr)
0	43,500
1	41,000
2	38,200
4	36,200
7	34,500
12	32,500
20	30,500
32	29,500
48	28,000
68	27,000
94	26,000
130	24,500
180	23,000
245	22,000
330	21,000
435	19,500
560	18,500

710	17,500
890	16,500
1100	15,500
1340	15,000
1610	14,000
1910	13,000
2240	12,000

G. Except as provided in a consent decree or a delayed compliance order, the owner or operator of the copper smelter located near San Manuel, Arizona at latitude 32°36'58"N and longitude 110°37'19"W smelters listed below shall not discharge or cause the discharge of fugitive sulfur dioxide into the atmosphere in excess of the following:

1. For the copper smelter located near San Manuel, Arizona at latitude 32°36'58"N and longitude 110°37'19"W:

~~1. a.~~ Annual average emissions calculated under R18-2-715.01(R) shall not exceed 715 pounds per hour for converter roof fugitive emissions; and

~~2. b.~~ The number of three-hour average emissions for converter roof fugitive emissions, calculated under R18-2-715.01(R) shall not exceed n cumulative occurrences in excess of E_p, the emission level, shown in the following table in any compliance period as defined in R18-2-715.01(~~F~~)(R)(8):

n, Cumulative Occurrences	E _p (lb/hr)
0	4462
1	4299
2	4222
4	4017
7	3867
12	3460
20	3179
32	3000
48	2827
68	2649
94	2523
130	2361
180	2218

245	2072
330	1923
435	1785
560	1644
710	1517
890	1402
1100	1300
1340	1208
1610	1121
1910	1039
2240	957

2. For the copper smelter located near Hayden, Arizona at latitude 33° 0' 29"N and longitude 110° 47' 17"W, annual average fugitive emissions calculated under R18-2-715.01(T) shall not exceed 295 pounds per hour.

H. In addition to the limits in subsection (F)(3), except as provided in a consent decree or a delayed compliance order, the owner or operator of the copper smelter located near Miami, Arizona at latitude 33°24' 50"N and longitude 110° 51' 25"W shall not discharge or cause the discharge of sulfur dioxide into the atmosphere from combined stack and fugitive emissions units in excess of the 2420 pounds per hour annual average calculated under R18-2-715.01(U).

R18-2-715.01. Standards of Performance for Existing Primary Copper Smelters; Compliance and Monitoring

- A. The cumulative occurrence and emission limits in R18-2-715(F) apply to the total of sulfur dioxide emissions from the smelter processing units and sulfur dioxide control and removal equipment, but not uncaptured fugitive emissions and or emissions due solely to the use of fuel for space heating or steam generation.
- B. The owner or operator shall include periods of malfunction, startup, shutdown or other upset conditions when determining compliance with the cumulative occurrence or annual average emission limits in R18-2-715(F), or (G), or (H).
- C. The owner or operator shall determine compliance with the cumulative occurrence and emission limits contained in R18-2-715(F) as follows:
 - 1. The owner or operator shall calculate annual average emissions at the end of each day by

averaging the emissions for all hours measured during the compliance period defined in subsection (J) ending on that day. An annual emissions average in excess of the allowable annual average emission limit is a violation of R18-2-715(F) if either:

- a. The annual average is greater than the annual average computed for the preceding day; or
 - b. The annual averages computed for the five preceding days all exceed the allowable annual average emission limit; ~~and~~.
2. The owner or operator shall calculate a three-hour emissions average at the end of each clock hour by averaging the hourly emissions for the preceding three consecutive hours provided each hour was measured according to the requirements in subsection (K).
- D.** For purposes of this Section, the compliance date, unless otherwise provided in a consent decree or a delayed compliance order, shall be January 14, 1986, except that:
1. ~~the~~ The compliance date for the cumulative occurrence and emissions limits in R18-2-715(F)(1) and R18-2-715(G)(1) ~~and (2)~~ is January 15, 2002; and
 2. The compliance date for the cumulative occurrence and emissions limits in R18-2-715(F)(2), (F)(3), (G)(2), and (H) is the effective date of this rule.
- E.** For purposes of subsection (C), a three-hour emissions average in excess of an emission level E violates the associated cumulative occurrence limit n listed in R18-2-715(F) if:
1. The number of all three-hour emissions averages calculated during the compliance period in excess of that emission level exceeds the cumulative occurrence limit associated with the emission level; and
 2. The average is calculated during the last operating day of the compliance period being reported.
- F.** A three-hour emissions average only violates the cumulative occurrence limit n of an emission level E on the day containing the last hour in the average.
- G.** Multiple violations of the same cumulative occurrence limit on the same day and violations of different cumulative occurrence limits on the same day constitute a single violation of R18-2-715(F).
- H.** The violation of any cumulative occurrence limit and an annual average emission limit on the same day constitutes only a single violation of the requirements of R18-2-715(F).
- I.** Multiple violations of a cumulative occurrence limit by different three-hour emissions averages

containing any common hour constitutes a single violation of R18-2-715(F).

- J.** To determine compliance with subsections (C) through (I), the compliance period consists of the 365 calendar days immediately preceding the end of each day of the month being reported unless that period includes less than 300 operating days, in which case the number of days preceding the last day of the compliance period shall be increased until the compliance period contains 300 operating days. For purposes of this Section, an operating day is any day on which sulfur-containing feed is introduced into the smelting process.
- K.** To determine compliance with R18-2-715(F) or (H), the owner or operator of any smelter subject to R18-2-715(F) or (H) shall install, calibrate, maintain, and operate a measurement system for continuously monitoring sulfur dioxide concentrations and stack gas volumetric flow rates in each stack that could emit five percent or more of the allowable annual average sulfur dioxide emissions from the smelter.
1. The owner or operator shall continuously monitor sulfur dioxide concentrations and stack gas volumetric flow rates in the outlet of each piece of sulfur dioxide control equipment.
 2. The owner or operator shall continuously monitor captured fugitive emissions for sulfur dioxide concentrations and stack gas volumetric flow rates and include these emissions as part of total plant emissions when determining compliance with the cumulative occurrence and emission limits in R18-2-715(F) and (H).
 3. If the owner or operator demonstrates to the Director that measurement of stack gas volumetric flow in the outlet of any particular piece of sulfur dioxide control equipment would yield inaccurate results once operational or would be technologically infeasible, then the Director may allow measurement of the flow rate at an alternative sampling point.
 4. For purposes of this subsection, continuous monitoring means the taking and recording of at least one measurement of sulfur dioxide concentration and stack gas flow rate reading from the effluent of each affected stack, outlet, or other approved measurement location in each 15-minute period. Fifteen-minute periods start at the beginning of each clock hour, and run consecutively. An hour of smelter emissions is considered continuously monitored if the emissions from all monitored stacks, outlets, or other approved measurement locations are measured for at least 45 minutes of any hour according to the requirements of this subsection.
 5. The owner or operator shall demonstrate that the continuous monitoring system meets all of

the following requirements:

- a. The sulfur dioxide continuous emission monitoring system installed and operated under this Section meets the requirements of 40 CFR 60, Appendix B, Performance Specification 6.
 - b. The sulfur dioxide continuous emission monitoring system installed and operated under this Section meets the quality assurance requirements of 40 CFR 60, Appendix F.
 - c. The owner or operator shall notify the Director in writing at least 30 days in advance of the start of ~~quality assurance~~ relative accuracy test audit (RATA) procedures performed on the continuous monitoring system.
 - d. The Director shall approve the location of all sampling points for monitoring sulfur dioxide concentrations and stack gas volumetric flow rates in writing before installation and operation of measurement instruments.
 - e. The measurement system installed and used under this subsection is subject to the manufacturer's recommended zero adjustment and calibration procedures at least once per 24-hour operating period unless the manufacturer specifies or recommends calibration at shorter intervals, in which case specifications or recommendations shall be followed. The owner or operator shall make available a record of these procedures that clearly shows instrument readings before and after zero adjustment and calibration.
- L.** The owner or operator of a smelter subject to this Section shall measure at least 95 percent of the hours during which emissions occurred in any month.
- M.** ~~The Failure of the~~ owner or operator of a smelter subject to this Section ~~shall to~~ measure any 12 consecutive hours of emissions according to the requirements of subsection (K) or (S) is a violation of this Section.
- N.** The owner or operator of any smelter subject to this Section shall maintain on hand and ready for immediate installation sufficient spare parts or duplicate systems for the continuous monitoring equipment required by this Section to allow for the replacement within six hours of any monitoring equipment part that fails or malfunctions during operation.
- O.** To determine total overall emissions, the owner or operator of any smelter subject to this Section shall

perform material balances for sulfur according to the procedures prescribed by Appendix 8 of this Chapter.

P. The owner or operator of any smelter subject to this Section shall maintain a record of all average hourly emissions measurements and all calculated average monthly emissions required by this Section. The record of the emissions shall be retained for at least five years following the date of measurement or calculation. The owner or operator shall record the measurement or calculation results as pounds per hour of sulfur dioxide. The owner or operator shall summarize the following data monthly and submit ~~them~~ the summary to the Director within 20 days after the end of each month:

1. For all periods described in subsection (C) and (R), the annual average emissions as calculated at the end of each day of the month;
2. The total number of hourly periods during the month in which measurements were not taken and the reason for loss of measurement for each period;
3. The number of three-hour emissions averages that exceeded each of the applicable emissions levels listed in R18-2-715(F) and (G)(1)(b) for the compliance periods ending on each day of the month being reported;
4. The date on which a cumulative occurrence limit listed in R18-2-715(F) or (G)(1)(b) was exceeded if the exceedance occurred during the month being reported: ; and
5. For all periods described in subsection (T) and (U), the annual average emissions as calculated at the end of the last day of each month.

Q. An owner or operator shall install instrumentation to monitor each point in the smelter facility where a means exists to bypass the sulfur removal equipment, to detect and record all periods that the bypass is in operation. An owner or operator of a copper smelter shall report to the Director, not later than the 15th day of each month, the recorded information required by this Section, including an explanation for the necessity of the use of the bypass.

R. The owner or operator shall determine compliance with the cumulative occurrence and fugitive emission limits contained in R18-2-715(G)(1) ~~and (2)~~ as follows:

1. The owner or operator shall calculate annual average emissions at the end of each day by averaging the emissions for all hours measured during the compliance period, as defined in subsection (R)(8), ending on that day. An annual emissions average in excess of the allowable annual average emission limit is a violation of R18-2-715(G)(1)(a) if either:

- a. The annual average is greater than the annual average computed for the preceding day; or
 - b. The annual averages computed for the five preceding days all exceed the allowable annual average emission limit.
2. The owner or operator shall calculate a three-hour emissions average at the end of each clock hour by averaging the hourly emissions for the preceding three consecutive hours provided each hour was measured according to the requirements contained in subsection (S).
 3. For purposes of subsection (R)(2), a three-hour emissions average in excess of an emission level E_f violates the associated cumulative occurrence limit n listed in R18-2-715(G)(2)(1)(b) if:
 - a. The number of all three-hour emissions averages calculated during the compliance period in excess of that emission level exceeds the cumulative occurrence limit associated with the emission level; and
 - b. The average is calculated during the last operating day of the compliance period being reported.
 4. A three-hour emissions average only violates the cumulative occurrence limit n of an emission level E_f on the day containing the last hour in the average.
 5. Multiple violations of the same cumulative occurrence limit on the same day and violations of different cumulative occurrence limits on the same day constitute a single violation of R18-2-715(G)(2)(1)(b).
 6. The violation of any cumulative occurrence limit and an annual average emission limit on the same day constitutes only a single violation of the requirements of R18-2-715(G)(1).
 7. Multiple violations of a cumulative occurrence limit by different three-hour emissions averages containing any common hour constitutes a single violation of R18-2-715(G)(2)(1)(b).
 8. To determine compliance with subsections (R)(1) through (7), the compliance period consists of the 365 calendar days immediately preceding the end of each day of the month being reported unless that period includes less than 300 operating days, in which case the number of days preceding the last day of the compliance period shall be increased until the compliance period contains 300 operating days. For purposes of this section, an operating day is any day on which sulfur-containing feed is introduced into the smelting process.

- S. To determine compliance with R18-2-715(G)(1) ~~and (2)~~, the owner or operator of ~~any~~ the smelter subject to R18-2-715(G)(1) ~~and (2)~~ shall install, calibrate, maintain, and operate a measurement system for continuously monitoring sulfur dioxide concentrations of the converter roof fugitive emissions.
1. For purposes of this subsection, continuous monitoring means the taking and recording of at least one measurement of sulfur dioxide concentration from an approved measurement location in each 15-minute period. Fifteen-minute periods start at the beginning of each clock hour, and run consecutively. An hour of smelter emissions is considered continuously monitored if the emissions from all approved measurement locations are measured for at least 45 minutes of any hour according to the requirements of this subsection.
 2. The owner or operator of a smelter subject to the requirements of this subsection shall conduct quality assurance procedures on the continuous monitoring system according to the methods in 40 CFR 60, Appendix F, except that an annual relative accuracy test audit (RATA) is not required.
- T. The emission limit in R18-2-715(G)(2) applies to the total of uncaptured fugitive sulfur dioxide emissions from the smelter processing units and sulfur dioxide control and removal equipment, but not emissions due solely to the use of fuel for space heating or steam generation. The owner or operator shall determine compliance with the emission limit contained in R18-2-715(G)(2) as follows:
1. The owner or operator shall calculate annual average fugitive emissions at the end of the last day of each month by averaging the monthly emissions for the previous 12-month period ending on that day. To determine monthly fugitive emissions, the owner or operator shall perform material balances for sulfur according to the sulfur balance procedures prescribed in Appendix 8 of this Chapter.
 2. An annual emissions average in excess of the allowable annual average emission limit violates R18-2-715(G)(2) if the fugitive annual average computed at the end of each month exceeds the allowable annual average emission limit.
- U. The emission limit in R18-2-715(H) applies to the total of stack and uncaptured fugitive sulfur dioxide emissions from the smelter processing units and sulfur dioxide control and removal equipment, but not emissions due solely to the use of fuel for space heating or steam generation. The owner or operator shall determine compliance with the emission limit contained in R18-2-715(H) as follows:
1. The owner or operator shall calculate annual average stack emissions at the end of the last

day of each month by averaging the emissions for all hours measured during the previous 12-month period ending on that day according to the requirements contained in subsection (K).

2. The owner or operator shall calculate annual average fugitive emissions at the end of the last day of each month by averaging the monthly emissions for the previous 12-month period ending on that day. To determine monthly fugitive emissions, the owner or operator shall perform material balances for sulfur according to the sulfur balance procedures prescribed in Appendix 8 of this Chapter.

3. An annual emissions average in excess of the allowable annual average emission limit violates R18-2-715(H) if the total of the stack and fugitive annual averages computed at the end of each month exceeds the allowable annual average emission limit.

Section A.3

ADEQ - Air Quality Division Organization Chart

Arizona Department of Environmental Quality
 Air Quality Division
 - January 2002 -

AQD Director's Office
 21100

0005 B-1
 Nancy Wrona 2308
 AQD Director Gr E4
 S/A/AP

AQD Deputy Director 22110

1223 B-2
 Ira Domskey 2365
 AQD Deputy Director Gr E3
 F/S/A/AP

Planning Section 25100

0886 B-7
 Theresa Pella 2375
 Ev Prg Mgr Gr 23
 S/A/AP

1304 B-7
 Vacant
 Exec Consultant II Gr 22
 A

Vehicle Emissions Section
 23110

0576 7017
 Dan Grubbe Gr 23
 Ev Pgm Mgr V

Air Assessment Section
 24100

0463 2274
 Michael George Gr 23
 Ev Pgm Mgr S/A

Permits Section
 26100

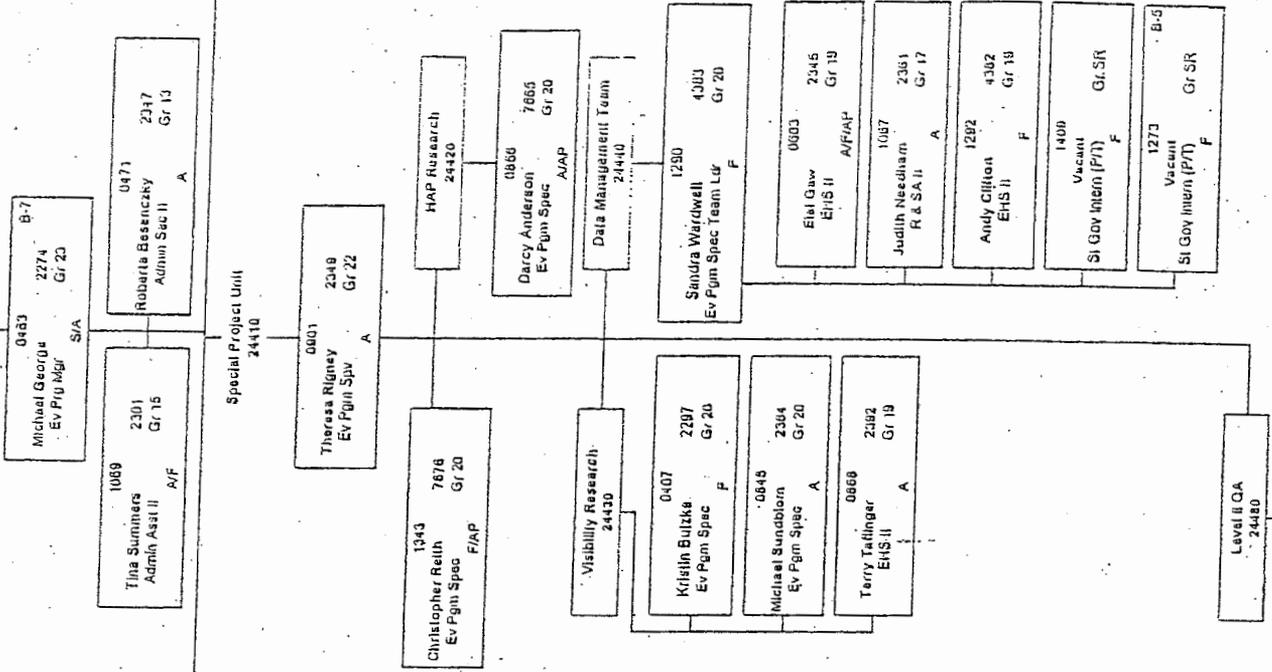
0313 2329
 Prabhat Bhargava Gr 23
 Ev Pgm Mgr - PE AP

Compliance Section
 27100

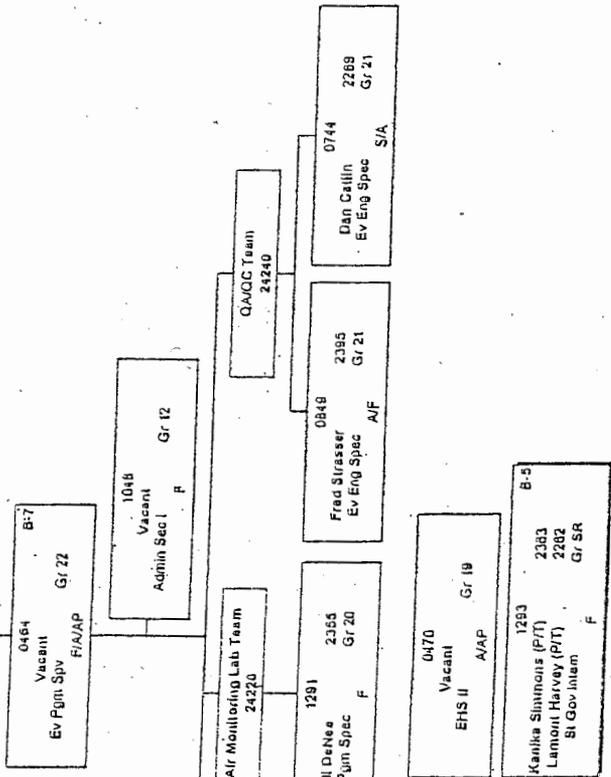
0937 2328
 Cathy O'Connell Gr 23
 Ev Pgm Mgr AP

Arizona Department of Environmental Quality
 Air Quality Division
 - January 2002 -

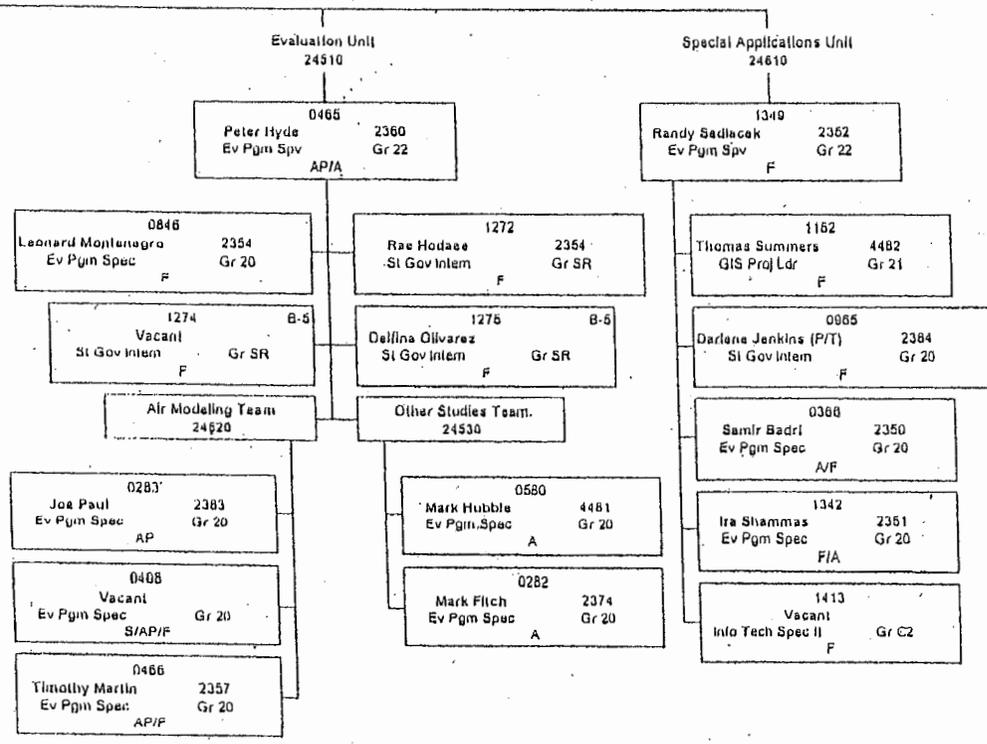
Air Assessment Section
 24100



Monitoring Unit
 24230



Arizona Department of Environmental Quality
 Air Quality Division
 Air Assessment Section (continued)
 - January 2002 -



Arizona Department of Environmental Quality
 Air Quality Division
 - January 2002 -

Planning Section
 25100

0886	B-7
Theresa Pella	2375
Ev Pgm Mgr	Gr 23
S/A/AP	

0672	4486
Mollie Lamoine	Gr 13
Admin Sec II	
F/S	

1363	2335
Mohan Toopal	Gr 22
Ev Consultant II	
A	

0684	2339	B-5
David Little	Gr 22	
Economist III		
A		

SIP & Program Development Unit
 25210

0890	4480	B-7
Sherri Zendri	Gr 22	
Ev Pgm Spv		
F		

SIP Team
 25220

0705	2378
Deborah Marinkovic	Gr 20
Ev Pgm Spec	
A	

0203	
Vacant	Gr 19
EHS II	
S/A/AP	

0676	2371
Catherine Jordan	Gr 19
Planner II	
A	

0874	4417
Andra Junel	Gr 19
Planner II	
F	

0891	2369
Charlotte Hadley	Gr 19
EHS II	
F	

Rules Team
 25230

1179	2230	B-5
Mark Lewandowski	Gr 21	
DEQ Ev Rules Spec		
A		

0889	2378
Dena Konopka	Gr 20
Ev Pgm Spec	
F/AP	

0892	
Vacant	Gr 19
EHS II	
AP/A	

1302	2259	B-5
Bruce Friedl	Gr 20	
Ev Pgm Spec		
F		

Fund & Project Management Team
 25300

0853	2376
David Biddle	Gr 20
Ev Pgm Spec	
A	

1169	2370
Sondra Francis	Gr 19
P & PS II	
F/A	

0887	
Vacant	Gr 19
P & PS II	
A	

Arizona Department of Environmental Quality
Air Quality Division
- January 2002 -

Permits Section
28100

0313		
Prabhat Bhargava	2329	
Ev Pgm Mgr. - PE	Gr 23	
AP		

0955		
Barbara Dennie	2320	
Admin Asst I	Gr 13	
AP		

0938		
Shirley Gaertner	2287	
R & SA II	Gr 17	
AP		

New Source Unit
28510

0811		B-7
Eric Massey	2288	
Ev Pgm Spv	Gr 22	
AP		

0620		
Sylvia Schoen	2338	
Admin Sec I	Gr 12	
AP		

New Source Review Staff
28520

0619		
Paul Babonis	2334	
Ev Eng Spec	Gr 21	
S		

0743		
Mark Hajduk	2317	
Ev Eng Spec S/D	Gr 21	
AP		

0616		
Trevor Bagglore	2321	
Ev Eng Spec	Gr 21	
AP		

0897		
Barbara Sprongl	2283	
Ev Eng Spec S/D	Gr 21	
AP		

0927		
Francis Udoh	2336	
Ev Eng Spec	Gr 21	
AP		

0886		
Naveen Savarirayan	2285	
Ev Eng Spec	Gr 21	
AP		

1063		
Shudesh Mahadev	2323	
Ev Eng Spec	Gr 21	
AP		

Existing Source & General Permit Unit
28610

0828		B-7
Vacant		
Ev Pgm Spv	Gr 22	
AP		

0821		
Priscilla Begay	2337	
Admin Sec I	Gr 12	
S		

1234		B-6
Vacant		
St. Gov Intern	Gr SR	
AP		

Existing Source & General Permit Staff
28620

0898		
Sunil Varma	2322	
Ev Eng Spec	Gr 21	
AP		

0899		
Imran Bajwa	4492	
Ev Eng Spec	Gr 20	
AP		

0617		
P K Tandon	2358	
Ev Eng Spec	Gr 21	
AP		

0618		
Zigang Fang	4490	
Ev Eng Spec	Gr 21	
AP		

0281		
Balaji Vaidyanathan	4627	
Ev Eng Spec	Gr 21	
AP		

0614		
Vacant		
Ev Eng Spec	Gr 21	
S		

0894		
Alexander Wood	2284	
Ev Eng Spec	Gr 21	
AP		

1065		
Rana Kazemnia	2332	
Ev Eng Spec	Gr 21	
AP		

1084		
Hoda Kazemi	2321	
Ev Eng Spec	Gr 21	
AP		

Arizona Department of Environmental Quality
Air Quality Division
- January 2002 -

Compliance Section
27100

0937	B-7
Cathy O'Connell	2328
Ev Pgm Mgr	Gr 23
AP	

0885	2342
Karen Parker	Gr 13
Admin Asst I	
AP	

0914	4477
Marcia Colquitt	Gr 20
Ev Pgm Spec	
S/F	

0622	2342
Rosalta Silder	Gr 13
Admin Sec II	
AP	

Inspections & Field Services
Unit
27210

0610	B-7
Vacant	Gr 22
Ev Pgm Spv	
AP/F	

CRO Inspection Team
27228

0660	4553
Lucinda Chavez	Gr 20
Ev Pgm Spec	
F	

1166	4553
Tracy Neal	Gr 20
Ev Pgm Spec	
F	

Performance/Test CEM Team
27250

0392	2327
Wayne Hunt	Gr 21
Ev Eng Spec	
AP	

0924	4493
Frank Keene	Gr 19
EHS II	
AP	

0922	4494
Lynn Ott	Gr 19
EHS II S/D	
AP	

0615	2280
Steve Rosa	Gr 21
Ev Eng Spec	
AP	

0389	2326
Dick Hamilton	Gr 21
Ev Eng Spec	
AP/S	

0919	4537
Fred Ellis	Gr 20
Ev Pgm Spec	
AP	

0815	4537
Martin Landis	Gr 21
Ev Eng Spec	
AP	

1071	2324
Emily Bonanni	Gr 21
Ev Eng Spec	
AP	

0813	4495
Galileo Gutierrez	Gr 21
Ev Eng Spec	
AP	

0933	2282
Raza Abbas	Gr 18
Ev Eng Assoc	
AP	

Technical Services Unit
27310

0932	2286
Lynn Ogata	Gr 22
Ev Pgm Spv	
S	

0910	Gr 12
Vacant	
Admin Sec I	
AP	

1392	B-5
Vacant	Gr 19
P & PS II	
F	

Technical Review Team
27320

0613	4489
Joanta Wadas	Gr 21
Ev Eng Spec	
S/AP	

0912	Gr 21
Vacant	
Ev Eng Spec	
AP	

1072	2343
Leonard Ishihara	Gr 21
Ev Eng Spec	
AP	

1073	2281
Weiwan Daly	Gr 21
Ev Eng Spec	
AP	

1074	4488
Tarun Sinha	Gr 21
Ev Eng Spec	
AP	

1141	2325
Richard Baker	Gr 21
Ev Eng Spec	
AP	

Information Management Team
27330

0379	2273
Latha Toopal	Gr 21
Ev Eng Spec	
AP	

0923	2344
Carol Tuttle	Gr C3
Info Tech Spec III	
AP	

1070	Gr 19
Vacant	
EHS II	
AP	

APPENDIX B
Emissions Inventory

Section B.1
Section B.2

Miami Smelter Emissions Inventory
Area and Mobile Source Emissions Inventory

Section B.1

Miami Smelter Emissions Inventory

Appendix B.1: Phelps Dodge Miami Smelter - 2000 Emissions Inventory

Segment Name	Sulfur Dioxide Emissions (tons)
Acid Plant Tail Stack	1616
Collected Fugitives	
Bypass Stack	
Smelting Fugitives	5193
Total	6810

Section B.2

Area and Mobile Source Emissions Inventory

Appendix B.2: Area and Mobile SO₂ Projections for the Miami SO₂ Nonattainment Area

Area and mobile source emissions from the 1999 EPA National Emission Trends (NET) inventory report were used to project emissions for the Miami area. Although the 1996 record is the latest available quality assured inventory based on actual emissions, estimates for 1999 are also available. The 1999 county aggregate emissions record is calculated based on economic growth activity. The 1999 inventory for Gila County listed SO₂ emissions from area and mobile sources at 482 tpy. Table 1 presents the 1999 NET emissions for Gila County.

Table 1: Gila County Area and Mobile Source Emissions (tpy)	
Area	1999
Fuel Comb. Industrial - Coal	16
Fuel Comb. Industrial - Oil	2
Fuel Comb. Industrial - Gas	< 1
Fuel Comb. Other - Commercial/Institutional Oil	< 1
Fuel Comb. Other - Residential Wood	4
Fuel Comb. Other - Residential Other	< 1
Waste Disposal and Recycling - Incineration	2
Waste Disposal and Recycling - Open Burning	2
Mobile	
Highway Vehicles - Light Duty Gas Vehicles and Motorcycles	29
Highway Vehicles - Light-Duty Gas Trucks	20
Highway Vehicles - Heavy-Duty Gas Vehicles	4
Highway Vehicles - Diesels	33
Off-Highway - Non-road Gasoline	3
Off-Highway - Non-Road Diesel	244
Off-Highway - Aircraft	< 1
Off-Highway - Railroads	17
Off-Highway - Other	< 1
Miscellaneous - Other Combustion	105
Total - Area and Mobile	482

Source: U.S. Environmental Protection Agency - AIRData NET Tier Report for Sulfur Dioxide.

Area and mobile source projections for the nonattainment area are based on the assumptions that the sulfur content of fuels will not be exceeded, that no additional controls for SO₂ emissions will be implemented, and that fuel usage rates per person will remain constant through the projected time periods. The projections are also based on the assumptions that SO₂ emissions are proportionate to population and thus will increase proportionately with the population of the Miami nonattainment area. Table 2 shows the Gila County population and the relative percent of nonattainment area population.

Table 2: Gila County and Miami SO₂ Nonattainment Area Population	
	1999
Gila County	47,898
Miami	2,059
Claypool	2,213
Central Heights	3,283
Globe	7,504
Nonattainment Area Population	15,059
Nonattainment Area As Percent of County Population	31%

Source: Arizona Department of Economic Security (ADES)¹

The nonattainment area population, calculated from the aggregate population centers of Miami, Claypool, Central Heights, and Globe, is approximately 31 percent of the Gila County population. A corresponding proportion of the 1999 Gila County area and mobile source emissions equates to 149 tons (482 tons * 31 % = 149 tons). This value was increased by the rate of population growth for the nonattainment area. Table 3, on the following page, illustrates Miami area population growth through 2015. Table 4 presents the corresponding area and mobile emissions projections. The projections show that an estimated 9 percent increase in the population between 1999 and 2015 corresponds to an increase of mobile and area source emissions from 149 tpy to 162 tpy for the Miami area.

¹ Miami area population estimates were obtained from Arizona Department of Economic Security (ADES) projected populations for cities and counties from 1997 through 2015. The data can be found at the ADES website: <http://www.de.state.az.us/links/economic/webpage/popweb/coproj97.html>

Table 3: Population Projections for Pinal County and the Miami SO₂ Nonattainment Area					
	1999	2000	2005	2010	2015
Miami	2,059	2,063	2,079	2,094	2,110
Globe	7,504	7,568	7,841	8,107	8,378
Claypool	2,213	2,214	2,215	2,216	2,217
Central Heights	3,283	3,313	3,436	3,556	3,681
Gila County	47,898	48,614	51,644	54,603	57,613
Nonattainment Area Population	15,059	15,164	15,571	15,973	16,386
Nonattainment Area Population Growth Rate (Percent)		0.7 %	2.7 %	2.6 %	2.7 %

Source: Arizona Department of Economic Security

Table 4: Annual SO₂ Emissions Projections for the Miami SO₂ Nonattainment Area (tpy)					
	1999	2000	2005	2010	2015
Area and Mobile Emissions	149	150	154	158	162

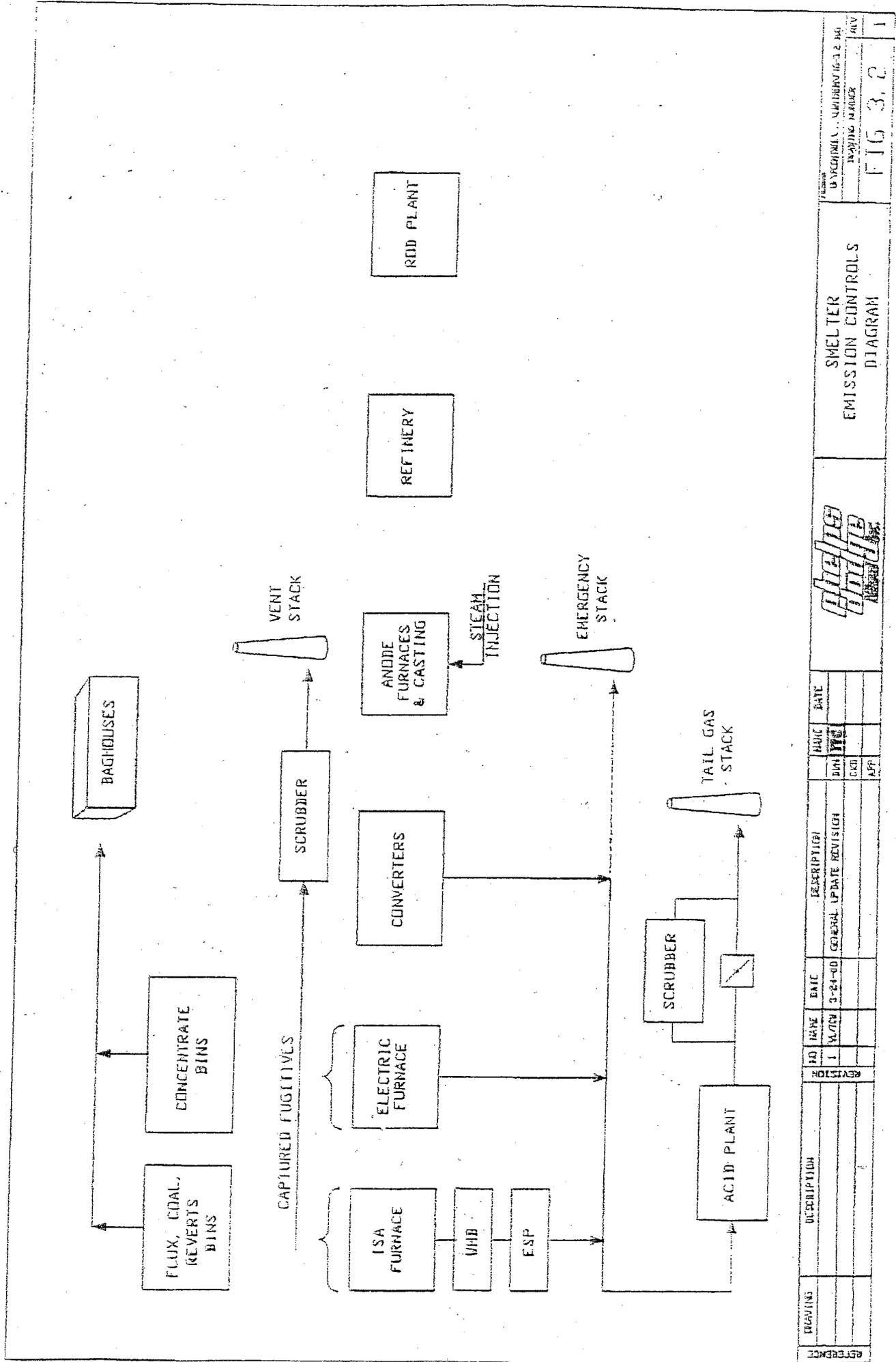
APPENDIX C

Facility Information

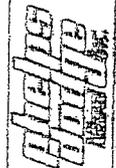
Section C.1	Process Flow Diagram
Section C.2	Fugitive Emissions Study, August, 1991
Section C.3	2002, 3-Hour Average Emission Limit Selection Method

Section C.1

Process Flow Diagram



SMELTER
 EMISSION CONTROLS
 EMISION CONTROL
 DIAGRAM



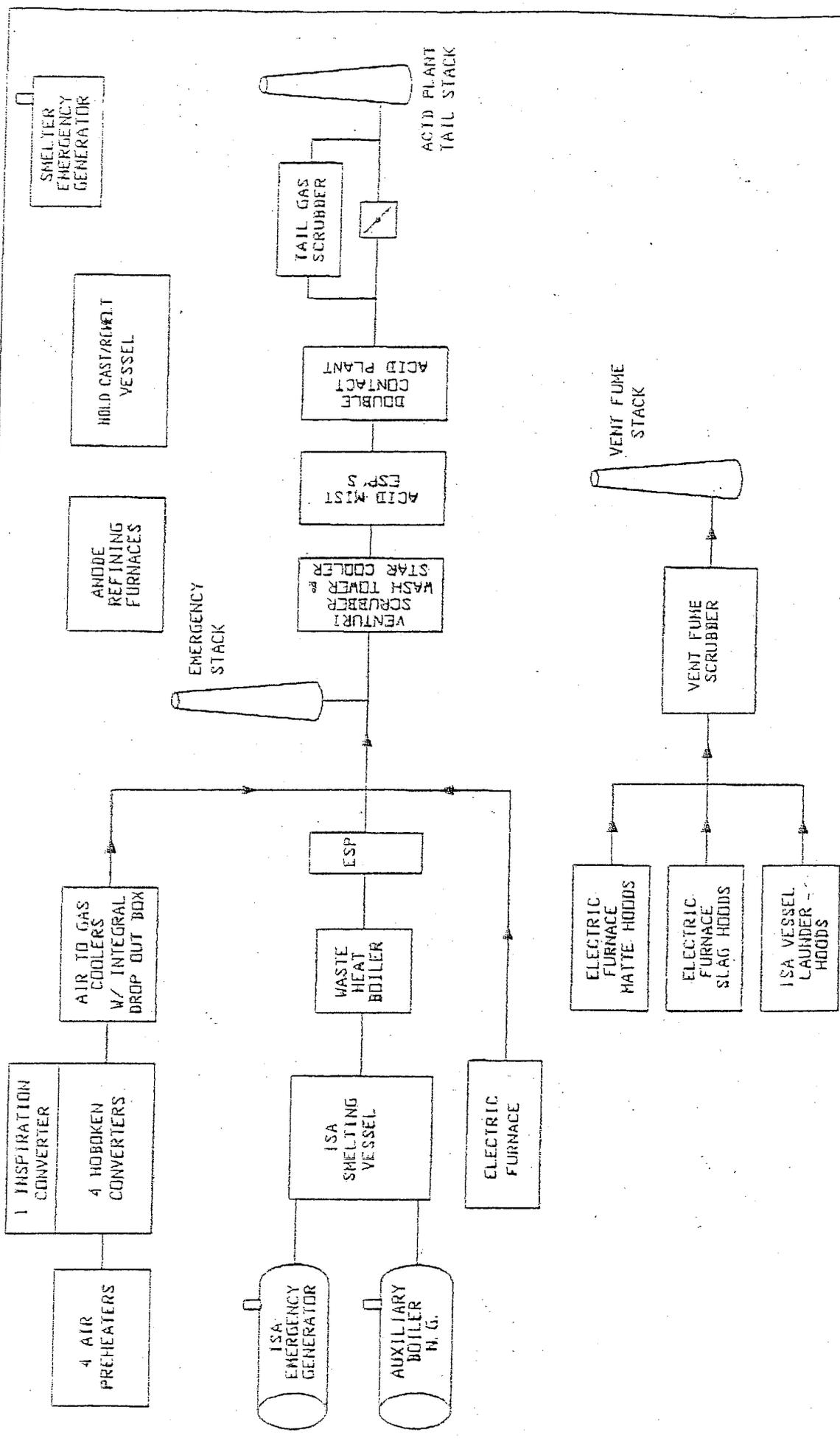
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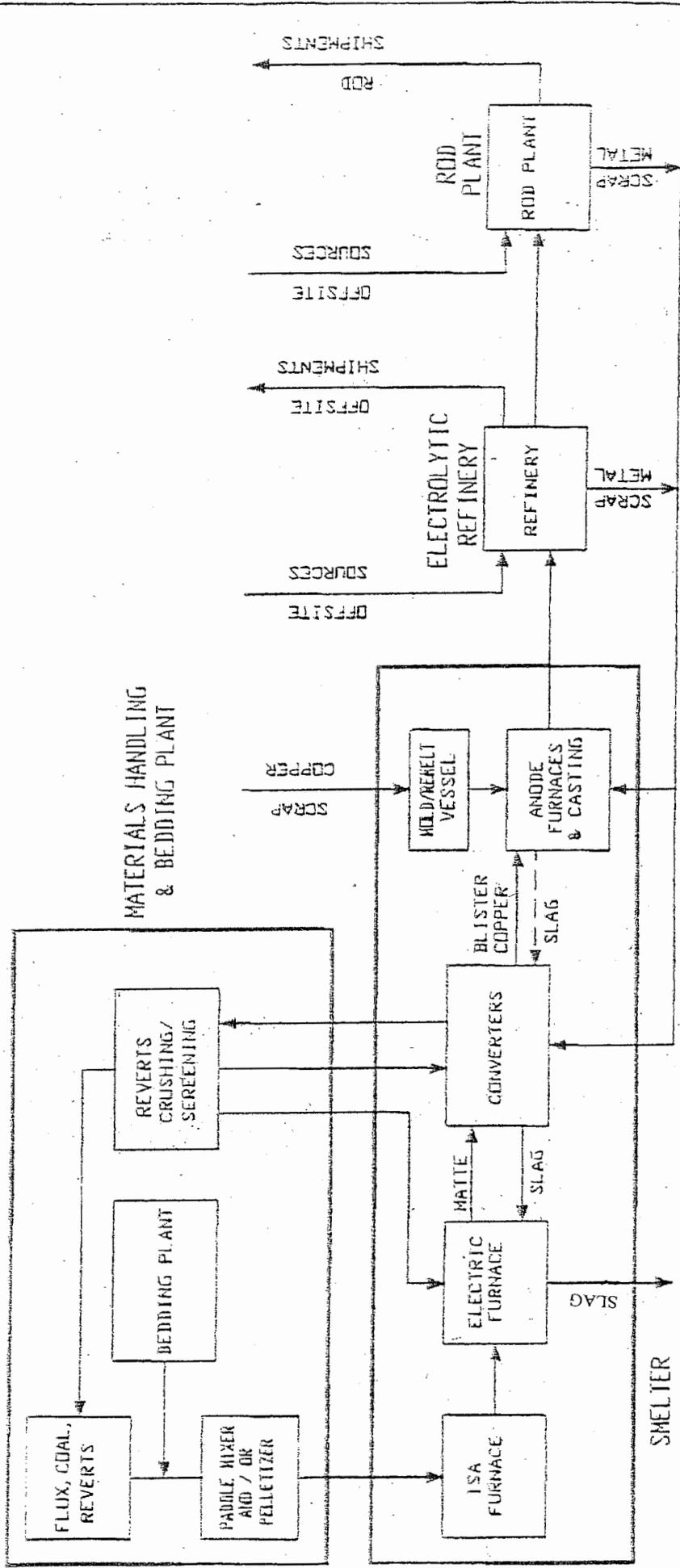
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FIG 3.1
SMELTER FACILITY AREAS
DIAGRAM

SMELTER FACILITY AREAS
DIAGRAM



SMELTER FACILITY AREAS
DIAGRAM

Section C.2

Fugitive Emissions Study, August, 1991 (Summary)*

* Due to the large size of this document, a complete copy will be available for review at the Arizona Department of Environmental Quality Library, 3033 N. Central Ave., Phoenix, AZ 85012.

**FINAL REPORT
FUGITIVE EMISSION MONITORING PROGRAM
CYPRUS MIAMI MINING CORPORATION
MIAMI, ARIZONA**

PREPARED FOR:

*Office of Air Quality Division
Department of Environmental Quality
2005 North Central Avenue
Phoenix, Arizona 85704*

*Cyprus Miami Mining Corporation
P.O. Box 4444
Inspiration, Arizona*

PREPARED BY:

**TRC ENVIRONMENTAL CONSULTANTS, INC.
TRC Project Reference No. 6878-E12-01/07**

August 27, 1991



TRC Environmental Consultants, Inc.

7002 South Revere Parkway, Suite 60
Englewood, CO 80112

(303) 792-5555

A TRC Company

EXECUTIVE SUMMARY

A Fugitive Emission Monitoring (FEM) program was developed, initiated, and completed at the Cyprus Miami Copper Smelter from August 1990 through February 1991. The purpose of the program was to provide a measurement or accurate estimate of the total fugitive emissions from the smelter during typical smelting operations.

The measurement program followed the methods and procedures defined in the *Final Fugitive Emissions Monitoring Plan for Cyprus Miami Mining Corporation (TRC 1989)*, submitted and approved by Arizona Department of Air Quality. The primary objectives of the program were:

- Continuous and accurate measurement of the total sulfur dioxide fugitives from the smelter for a six month period;
- A measurement or accurate estimate of the proportion of converter sulfur dioxide fugitive emissions during typical operations to the total emissions;
- Correlation of stack emissions and process activities to the converter fugitive emissions;
- Fugitive emission impact analyses incorporating fugitive emission measurements, meteorological conditions, and ambient sulfur dioxide concentrations to associate fugitive emissions with specific measured ambient concentrations.

The fugitive emission program was conducted, on a continuous basis, for a period of seven months. From the FEM program results, the primary conclusions of this study indicated that;

- The sulfur dioxide fugitive emissions from the Converter building averaged 584 pounds per hour over the seven month period (08/90 through 02/91).
- Approximately 34.6% of the total sulfur dioxide emissions, from the facility, are attributed to converter building fugitives. The total sulfur dioxide emissions are based upon the measured fugitives plus the total stack emissions from the smelter and acid plant operations.
- The study indicated that there is no predictable or direct correlation between stack emissions and converter fugitives but general comparisons provided by time series plots indicated common trends between fugitives and stack emissions.

- Correlation of various converter process activities and fugitive emissions also did not provide an *exact* relationship but comparisons did indicate a "cause and effect" relationship between various process activities and the relative magnitude of fugitive emissions.
- The ambient impact analyses developed from the FEM fugitive data, stack source emissions, on-site meteorological data, and ambient monitoring data base, indicates that the converter fugitive emissions have a negligible impact on the general ambient air quality for the area.
- All modeled SO₂ concentrations were found to be far less than the 3-hour ambient air quality standard of 1,300 µg/m³. This indicates that the contribution of the fugitive emissions on the ambient air quality is negligibly small, and that the fugitive emissions do not jeopardize continued attainment of ambient SO₂ air quality standards in the vicinity of the Miami smelter.

Section C.3

2002, 3-Hour Average Emission Limit Selection Method

Selection of 2002 Emission Limits for Phelps Dodge Miami Smelter

The following table illustrates the method of selecting the cumulative occurrence (n) and 3-hour average emission limits (E) for stack sources at the Miami smelter. The limits were selected from the 3-hour rolling averages derived from the attainment period, 1999 through 2000 (derivation of attainment period 3-hour averages is described in chapter 5 of this document).

N, Cumulative Occurrences	E, Emission Rate (lb/hr)
0	Highest 3-hr value, never to be exceeded
1	Second highest value
2	Third highest value
4	Fifth highest value
7	Eighth highest value
12	Thirteenth highest value
20	Twenty first highest value
32	Thirty third highest value
48	Forty ninth highest value
68	Sixty ninth highest value
94	Ninety fifth highest value
130	One hundred and thirty first highest value
180	One hundred and eighty first highest value
245	Two hundred and forty sixth highest value
330	Three hundred and thirty first highest value
435	Four hundred and thirty sixth highest value
560	Five hundred and sixty first highest value
710	Seven hundred and eleventh highest value
890	Eight hundred and ninety first highest value
1100	Eleven hundred and first highest value
1340	Thirteen hundred and forty first highest value
1610	Sixteen hundred and eleventh highest value
1910	Nineteen hundred and eleventh highest value
2240	Two thousand, two hundred and forty first highest value

APPENDIX D

SIP Public Hearing Documentation

Section D.1	Notice of Public Hearing
Section D.2	Public Hearing Agenda
Section D.3	Public Hearing Sign In Sheet
Section D.4	Public Hearing Officer Certification and Transcript
Section D.5	Public Comments
Section D.6	Responsiveness Summary

Section D.1

Notice of Public Hearing for SIP

PUBLIC NOTICE
DEPARTMENT OF ENVIRONMENTAL QUALITY
MARI Sulfur Dioxide Nonattainment Area State
Implementation and Maintenance Plan

Affidavit of Publication

State of Arizona
County of Gila

The Arizona Department of Environmental Quality (ADEQ) will hold a public hearing to receive comments on a proposed Miami Sulfur Dioxide Nonattainment Area State Implementation Plan. The Plan consists of an attainment demonstration, maintenance plan, and redesignation to attainment requested for the Miami Sulfur Dioxide Nonattainment Area. The purpose of this Plan is to demonstrate how the State of Arizona has met the National Ambient Air Quality Standards (NAAQS) for sulfur dioxide (SO2), and how compliance with the NAAQS in the Miami area will be maintained.

Ellen Kretsch, or her authorized representative, _____, being first duly sworn deposes and says: That she is the publisher of the Arizona Silver Belt, San Carlos Apache Moccasin, and the Gila County Advantage newspapers, located at 298 North Pine Street, Globe, Arizona 85501, or mail P.O. Box 31, Globe, Arizona 85502.

The Miami Area was designated nonattainment for SO2 in 1978. Ambient air quality monitors located in the Miami nonattainment area have recorded no violations of the SO2 NAAQS since 1985. The record also shows ambient air quality measurements have remained below the SO2 NAAQS for more than eight consecutive quarters, one of the requirements to be redesignated to attainment. The clean air quality record, enforceable emission measures, and projections of future emissions presented in the proposed plan, demonstrate that the area has attained and will continue to maintain the SO2 air quality standards. The plan includes a request for the U.S. Environmental Protection Agency to redesignate the area to attainment.

The above stated newspapers are published weekly in Globe, in the State of Arizona, County of Gila and that the following described _____ legal, or _____ advertising was duly published.

A public hearing on the proposed Miami Sulfur Dioxide Nonattainment Area State Implementation and Maintenance Plan will be held on Tuesday, June 6, 2002, at 11:00 A.M., at the Miami Town Hall, Council Chambers, 288 Sullivan Street, Miami, AZ 85539. All interested parties will be given an opportunity at the public hearing to submit relevant comments, data, and views, orally and in writing. Written comments must be received at ADEQ by 5:00 p.m. on Friday, June 7, 2002. All written comments should be addressed, faxed, or e-mailed to:

Public Notice AZ Dept. of Environmental Quality Public Hearing on the Miami Sulfur Dioxide Nonattainment area state implementation & maintenance plan.

Charlotte Hedley
Air Quality Planning Section
Arizona Department of Environmental Quality
3000 N. Central Ave., T5109B
Phoenix, AZ 85012-2905
PHONE: (602) 207-2369
FAX: (602) 207-2368
E-Mail: hedley.charlotte@ev.state.az.us

A printed copy of said legal or advertisements is attached hereto and was published in a regular weekly edition of said newspaper (and not a supplement thereof) for _____ consecutive weeks in the _____ Arizona Silver Belt newspaper, and/or the _____ San Carlos Apache Moccasin newspaper, and/or the _____ Gila County Advantage. The dates of publication being as follows, to wit:

Copies of the proposal are available for review beginning Monday, May 6, 2002, at the following locations:
Arizona Department of Environmental Quality Library
First Floor
3000 N. Central Avenue
Phoenix, Arizona 85012
Lorraine Alley, (602) 207-4335,
and
Office of the Clerk
300 Sullivan Street
Miami, Arizona 85539
Shirley Herry, (928) 473-4403
One Pub: 5-1-2002 Bell 3379

May 1, 2002

Ellen Kretsch

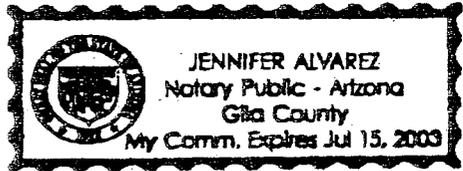
Ellen Kretsch, Publisher
Or authorized representative

State of Arizona
County of Gila

The foregoing instrument was acknowledged before me this _____ (date) by _____
Ellen Kretsch

Jennifer Alvarez
Jennifer Alvarez, Notary Public

My Commission Expires: July 15, 2003



CORRECTION

The legal advertisement published in the Arizona Silver Belt on May 1, Page B11, No. 3379, pertaining to the Miami Sulfur Dioxide Nonattainment Area, had an error on the date of the public hearing. The correct date should be **Thursday, June 6, 2002 at 11:00 a.m.**

Affidavit of Publication

**State of Arizona
County of Gila**

Ellen Kretsch, or her authorized representative, _____, being first duly sworn deposes and says:

That she is the **publisher** of the Arizona Silver Belt, San Carlos Apache Moccasin, and the Gila County Advantage newspapers, located at 298 North Pine Street, Globe, Arizona 85501, or mail P.O. Box 31, Globe, Arizona 85502.

The above stated newspapers are published weekly in Globe, in the State of Arizona, County of Gila and that the following described legal, or advertising was duly published.

Correction on legal advertisement published in the Arizona Silver Belt on May 1, 2002, pertaining to the Miami Sulfur Dioxide Nonattainment Area, had an error on the date of the public hearing. The correct date should be Thursday June 6, 2002 at 11:00 am.

A printed copy of said legal or advertisings is attached hereto and was published in a regular weekly edition of said newspaper (and not a supplement thereof) for consecutive weeks in the Arizona Silver Belt newspaper, and/or the San Carlos Apache Moccasin newspaper, and/or the Gila County Advantage. The dates of publication being as follows, to wit:

May 22, 2002

Ellen Kretsch

Ellen Kretsch, Publisher
Or authorized representative

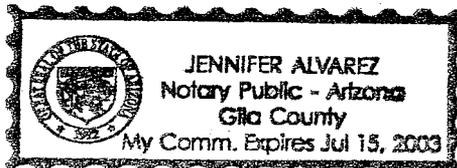
State of Arizona
County of Gila

The foregoing instrument was acknowledged before me this (date) by

May 22, 2002
Ellen Kretsch

Jennifer Alvarez
Jennifer Alvarez, Notary Public

My Commission Expires: July 15, 2003



Section D.2

Public Hearing Agenda for SIP



Jane Dee Hull
Governor

ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY

3033 North Central Avenue • Phoenix, Arizona 85012-2809
(602) 207-2300 • www.adeq.state.az.us



Jacqueline E. Schafer
Director

AIR QUALITY DIVISION

PUBLIC HEARING

on

The Proposed Miami Sulfur Dioxide Nonattainment Area State Implementation and Maintenance Plan

PLEASE NOTE THE MEETING LOCATIONS AND TIMES:

June 6, 2002, 11:00 a.m.

Miami Town Hall, Council Chambers, 500 Sullivan Street, Miami, AZ

Pursuant to 40 CFR § 51.102, notice is hereby given that the above referenced meeting is open to the public. Copies of the proposal are available for review at the Arizona Department of Environmental Quality (ADEQ) Library, 3033 North Central Avenue, Phoenix, Arizona and Town of Miami, Office of the Clerk, 500 Sullivan Street, Miami, Arizona.

AGENDA

1. Welcome and Introductions
2. Purposes of the Oral Proceeding
3. Procedure for Making Public Comment
4. Brief Overview of the Proposed Miami Sulfur Dioxide Nonattainment Area State Implementation and Maintenance Plan
5. Question and Answer Period
6. Oral Comment Period
7. Adjournment of Oral Proceeding

For additional information regarding the hearing, please call Bruce Friedl, ADEQ Air Quality Division, at (602) 207-2259 or 1-800-234-5677, Ext. 2259.

Persons with a disability may request a reasonable accommodation, such as a sign language interpreter, by contacting Katie Huebner at (602) 207-4794 or 1-800-234-5677, Ext. 4794. Requests should be made as early as possible to allow sufficient time to make the arrangements for the accommodation. This document is available in alternative formats by contacting ADEQ TDD phone number at (602) 207-4829.

Northern Regional Office
1515 East Cedar Avenue • Suite F • Flagstaff, AZ 86004
(928) 779-0313

Southern Regional Office
400 West Congress Street • Suite 433 • Tucson, AZ 85701
(520) 628-6733

Section D.3

Public Hearing Sign In Sheet for SIP



Arizona Department of Environmental Quality
Air Quality Division

Please Sign In

SUBJECT Miami Sulfur Dioxide Proposed SIP Hearing DATE June 6, 2002

	NAME	ORGANIZATION	PHONE	FAX	E-MAIL
1.	<u>John Reichenbach</u>	<u>DDMI</u>	<u>928-473-7418</u>	<u>928-473-7449</u>	<u>REICHENBACH@PHEIPSDAQE.COM</u>
2.	<u>Wayne Koipold</u>	<u>PDMI</u>	<u>928-473-7149</u>	<u>928-473-7449</u>	<u>wkoipold@phelpsdaqe.com</u>
3.	<u>Joseph A. Suarez</u>	<u>PH</u>	<u>(928)4733262</u>	<u>N/A</u>	<u>outs@lumber-the-nick.com</u>
4.					
5.					
6.					
7.					
8.					

Section D.4

Public Hearing Officer Certification and Transcript for SIP



Jane Dee Hull
Governor

ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY

3033 North Central Avenue • Phoenix, Arizona 85012-2809
(602) 207-2300 • www.adeq.state.az.us



Jacqueline E. Schafer
Director

AIR QUALITY DIVISION

Public Hearing Presiding Officer Certification

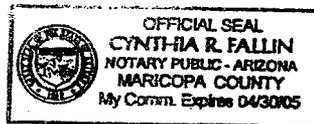
I, Martha Seaman, the designated Presiding Officer, do hereby certify that the public hearing held by the Arizona Department of Environmental Quality was conducted on June 6, 2002, in the Miami Town Hall, Council Chambers, Miami, Arizona, in accordance with public notice requirements by publication in the *Arizona Silver Belt* dated May 1, 2002. Furthermore, I do hereby certify that the public hearing was recorded from the opening of the public record through concluding remarks and adjournment, and the transcript provided contains a full, true, and correct record of the above-referenced public hearing.

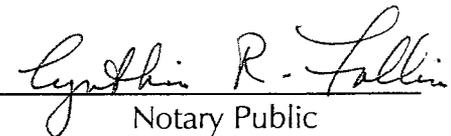
Dated this 18th day of June.


Martha Seaman

State of Arizona)
) ss.
County of Maricopa)

Subscribed and sworn to before me by Seaman this 18 day of 2002.




Notary Public

My commission expires:

04/30/05

56278

ADEQ 1
AIR QUALITY DIVISION
02 JUN 10 AM 10:08

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ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY

PUBLIC HEARING

ON THE MIAMI SULFUR DIOXIDE NONATTAINMENT AREA
STATE IMPLEMENTATION AND MAINTENANCE PLAN

Miami, Arizona

June 6, 2002

11:20 A.M.

BEFORE: MARTHA SEAMAN, HEARING OFFICER

PRESENT FOR ARIZONA DEPARTMENT OF ENVIRONMENTAL
QUALITY:

BRUCE FRIEDL Environmental Program Specialist
THERESA PELLA Manager, Air Planning Section
MIKE GEORGE Manager, Air Quality Assessment

ORIGINAL

REPORTED BY FLORENCE PASTEUR, CCR NO. 50300

UNITED COURT REPORTERS, INC.
(Silverman & Garwood)
(520) 792-2600 or (800) 759-9075

CONFERENCE ROOMS: Mailing Address:
Suite 200 P.O. Box 17507
177 North Church Avenue Tucson, Arizona 85731

1 HEARING OFFICER: Good afternoon, ladies
2 and gentlemen. I now open this oral proceeding on the
3 proposed Miami, Arizona Sulfur Dioxide Nonattainment
4 Area State Implementation and Maintenance Plan in
5 accordance with Arizona Revised Statutes
6 Section 49-424.

7 It is June 6th, 2002 at 11:20 a.m. The
8 location is the Miami Town Hall, Council Chambers,
9 located at 500 Sullivan Street, Miami, Arizona.

10 My name is Martha Seaman and I have been
11 appointed by the director of the Department of
12 Environmental Quality to preside at this hearing.

13 The purpose of this proceeding is to
14 provide the public with an opportunity to hear about
15 the substance of the proposed Miami Sulfur Dioxide
16 State Implementation and Maintenance Plan and to
17 present oral arguments, data and views regarding the
18 proposed plan in the form of comments on the record.

19 Representing the Department are Theresa
20 Pella, Manager of the Air Quality Planning Section;
21 Mike George, Manager of the Air Quality Assessment
22 Section; and Bruce Friedl of the Air Quality Planning
23 Section.

24 The procedure for making a public comment
25 on the record is straightforward. If you wish to

1 comment, you need to fill out a speaker slip, which is
2 available at the sign-in table, and give it to me.
3 Using the speaker slips allows everyone an opportunity
4 to be heard and allows us to match the name on the
5 official record with the comments.

6 You may also submit written comments in
7 person to me today or by mail, fax or e-mail to
8 Mr. Bruce Friedl by the end of the comment period. The
9 end of the comment period is 5:00 p.m. June 7, 2002.
10 Mailed, faxed or mailed written comments must be
11 postmarked by June 7, 2002. Submit your written
12 comments to Bruce Friedl -- F-r-i-e-d-l -- Air Quality
13 Planning Section, Arizona Department of Environmental
14 Quality, 3033 North Central Avenue, T5109B, Phoenix,
15 Arizona 85012. The fax number is area 602 207-2366.
16 Bruce's e-mail is friedl -- f-r-i-e-d-l -- dot bruce @
17 ev -- Edward Victor -- dot state dot az dot us.
18 However, if you use his e-mail address, please follow
19 up with a mailed or faxed hard copy.

20 Comments made during the formal comment
21 period are required by law to be considered by the
22 Department in the preparation of the final plan. This
23 is done through the preparation of a responsiveness
24 summary in which the Department responds in writing to
25 written and oral comments made during the formal

1 comment period.

2 The agenda for this hearing is simple.
3 First, Mr. Friedl will present a brief overview of the
4 proposed plan.

5 Then I will conduct a formal oral comment
6 period. At that time I will begin to call speakers in
7 the order that I have received speaker slips.

8 Please be aware that any comments you
9 make at today's hearing that you want the Department
10 to formally consider must be given either in writing or
11 on the record during the comment portion of this
12 proceeding.

13 At this time I will ask Mr. Friedl to
14 give a brief overview of the proposed Implementation
15 Plan for the Miami Sulfur Dioxide Nonattainment and
16 Maintenance Area. Bruce.

17 MR. FRIEDL: The proposed plan consists
18 of an attainment demonstration, maintenance plan, and a
19 redesignation to attainment request for the Miami
20 Sulfur Dioxide Nonattainment Area. The purpose of this
21 plan is to demonstrate how the State of Arizona has met
22 the National Ambient Air Quality Standards for sulfur
23 dioxide and how compliance with the standards in the
24 Miami area will be maintained.

25 The Miami area was designated

1 nonattainment for sulfur dioxide in 1979. Ambient air
2 quality monitors located in the Miami nonattainment
3 area have recorded no violations of the primary annual
4 standard for sulfur dioxide since 1977, and no
5 violation of the primary 24-hour standard since 1984.
6 There have also been no recorded violations of the
7 3-hour secondary standard since 1985. The record shows
8 that ambient air quality measurements have remained
9 below the standards for more than eight consecutive
10 quarters, one of the requirements to be redesignated to
11 attainment.

12 The plan also demonstrates that the
13 emission reduction control measures responsible for the
14 air quality improvement are both permanent and
15 enforceable. Based on point, area, and mobile source
16 emissions inventories, the primary source of sulfur
17 dioxide emissions in the nonattainment area has been
18 the copper smelter located near Miami, Arizona. The
19 plan describes the primary control measures implemented
20 at the Miami smelter to reduce emissions from the
21 smelter and to achieve attainment of the air quality
22 standards.

23 The clean air quality record enforceable
24 control measures and projections of future emissions
25 presented in the proposed plan demonstrate that the

1 area has attained and will continue to maintain the
2 sulfur dioxide air quality standards through at least
3 2015. The plan also contains contingency measures as a
4 safety measure to ensure continued maintenance of the
5 ambient sulfur dioxide standards. Therefore, the
6 proposed plan includes a request to the U.S.
7 Environmental Protection Agency to redesignate the
8 Miami area to attainment.

9 This concludes the explanation period of
10 this proceeding on the proposed Miami Sulfur Dioxide
11 State Implementation and Maintenance Plan.

12 HEARING OFFICER: I now to open the oral
13 comment portion of this hearing. Are there any speaker
14 slips?

15 MR. JOSEPH JUAREZ: (Produces speaker
16 slip.)

17 HEARING OFFICER: I have a speaker slip
18 for Joseph Juarez, representing the Central Arizona
19 Landscape Management. Mr. Juarez.

20 MR. JOSEPH JUAREZ: Good afternoon. Or
21 good morning.

22 I have been involved in the green
23 industry for well over 42 years. I grew up in the
24 Silicon Valley where there's gobs of smog, poor air
25 quality. It's really -- it's really hideous

1 sometimes.

2 I have found working with other agencies
3 in other states that, while industry tries hard to
4 maintain air quality, the public has to get involved.

5 One of the best ways to get involved is
6 to plant trees, trees that will get rather tall and get
7 some loft to them, in areas where it's suitable to do
8 so. Trees act like scrub brushes or sponges. They
9 clean a lot of the microscopic debris out of the air,
10 they take a lot of pollutants out of the air at the
11 molecular level, and convert them into less toxic
12 substances.

13 And in the Globe-Miami area trees aren't
14 looked upon as very handy there; they are looked upon
15 as water wasters, and consequently people misprune
16 them. And then they complain about all the dust
17 collecting around their house. So that's really
18 something that needs to be addressed.

19 That's all I've got to say.

20 HEARING OFFICER: Thank you for your
21 comment, Mr. Juarez.

22 Are there any other speaker slips?

23 (No response.)

24 HEARING OFFICER: Seeing no further
25 speaker slips, I conclude the oral comment period of

1 this hearing.

2 I encourage everyone to submit written
3 comments on the proposed plan.

4 Your participation is an essential part
5 of the State Implementation Plan development process.

6 Thank you all for attending. It is now
7 11:29. I now close this oral proceeding.

8 (At the hour of 11:29 a.m. the
9 public hearing was concluded.)
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C E R T I F I C A T E

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BE IT KNOWN that I, Florence Pasteur,
CCR #50300, took the foregoing public hearing pursuant
to notice at the time and place stated in the caption
hereto; that I was then and there a Certified Court
Reporter in and for the County of Pima, State of
Arizona; and the foregoing pages contain a full, true
and accurate transcription of my notes of said public
hearing.

Dated this 18th day of June 2002.



FLORENCE PASTEUR, CCR #50300

Section D.5

SIP Public Comments



P.O. Box 4444, Claypool, AZ 85632-4444

55377
ADEQ
AIR QUALITY DIVISION
02 JUN -7 PM 12:05

June 6, 2002

Certified Mail
7099 3220 0000 8947 7843

Mr. Bruce Friedl
ADEQ Air Quality Division
3033 N. Central Avenue, T5
Phoenix, AZ 85012

RE: Comments on Proposed Miami SO2 Nonattainment Area State Implementation and Maintenance Plan

Dear Mr. Friedl:

Enclosed are Phelps Dodge's comments on the referenced draft State Implementation Plan. If you have any questions please call me at 928-473-7149.

Sincerely,

Wayne H. Leipold
Sr. Environmental Engineer

**COMMENTS OF
PHELPS DODGE MIAMI, INC.
ON
PROPOSED MIAMI SO2 NONATTAINMENT AREA
STATE IMPLEMENTATION AND MAINTENANCE PLAN
June 6, 2002**

Phelps Dodge Miami, Inc. (PDMI) appreciates the collaborative effort that has produced the proposed maintenance plan (Plan) for redesignation of the Miami SO2 nonattainment area. PDMI offers the following comments for the consideration of the Arizona Department of Environmental Quality (ADEQ):

Page 1, first sentence: Add "area" after "Miami, Arizona."

Page 4, last sentence & Page 5: For accuracy and to avoid confusion, delete references to "nonattainment area" and replace them with "current study area definition."

Page 27, Table 3.1: The period of operation for Jones Ranch should be 1981 to present, not 1984 to present.

Page 38, Figure 4.1: Change "Hayden" to "Miami" in the heading to the figure.

Page 51 first line below end of Table 5.1: The reference to "Hayden" should be to "Miami."

Page 61, third paragraph, third sentence: For clarity and to avoid confusion, change "major modifications" to "significant modifications."

Page 64, first full paragraph (which starts with "All molten material..."), sixth sentence: We do not have a separate cooler into which the dust settles. Instead, the water sprays are located in what used to be referred to as a radiation cooler because it had water cooled panels on the side walls. This is a large vertical duct; therefore, some settling does take place. It would be more accurate to delete the words "in a cooler" at the end of this sentence.

Page 64, last paragraph, first sentence: For accuracy and clarity, revise the phrase at the end of the sentence as follows: "... transferred by overhead crane to one or more of three operating hot converters."

Page 66, second paragraph: For accuracy and clarity, replace "To improve treatment of emissions ..." with "To improve the removal efficiency of the acid plant and decrease tail stack emissions . . ."

Page 68 last paragraph (starting with "Phelps Dodge continues . . ."): For accuracy, PDMI requests that this sentence be modified or deleted. PDMI has agreed to the actions stated in the sentence as part of the forthcoming maintenance plan. They currently are not a requirement, and PDMI does not monitor the 1-hour provision. PDMI does take the converter down when this

condition develops, but we do not have any monitoring, *etc.* in place at this time to show compliance.

Page 79, Table 6.2: The word "ASARCO" needs to be changed to "Phelps Dodge".

Appendix B.1: The separation of "Smelting Converters" and "Smelting IsaSmelt Vessel" is artificial and gives the false impression that these are two separate sources. Both processes result in emissions through the acid plant tail stack, and PDMI reports these emissions in its inventory as tail stack emissions. Any attempt to allocate the emissions from this stack to the two categories will be somewhat arbitrary. For clarity, please remove the two separate entries and replace them with a single entry for the acid plant tail stack. With this change, the Table then will list the three stacks that comprise the 1616 number.

Appendix C.1, Flow Diagrams: The third diagram Fig. 3.1 should have the word "slag" added to the arrow that exits the bottom of the "Electric Furnace" box.

PDMI appreciates this opportunity to provide comments on the proposed Plan, and looks forward to the redesignation of the Miami area as an attainment area for sulfur dioxide.

Section D.6

SIP Responsiveness Summary

June 2002

RESPONSIVENESS SUMMARY
to
Testimony Taken at Oral Proceeding and Written Comments Received on
Miami Sulfur Dioxide State Implementation and Maintenance Plan

The oral proceeding on the Miami Sulfur Dioxide State Implementation and Maintenance Plan (SIP) was held at 11:00 a.m., Thursday, June 6, 2002, at the Miami Town Hall, Miami, Arizona. One oral comment was received during the proceeding. Written comments from one party were received during the public comment period. The public comment period closed Friday, June 7, 2002, at 5:00 p.m. Oral and written comments that were received and the Arizona Department of Environmental Quality's (ADEQ) responses are described below. During its final review of the proposed SIP revision ADEQ determined some further clarifications were appropriate. These clarifications, are also included below.

- 1) Clarification regarding the differences between an exceedance and a violation have been added to Chapter 1.
- 2) Clarification regarding the use of Arizona Department of Economic Security statistics have been added to Chapter 1.
- 3) Clarification regarding the period of operation of ambient air quality monitors have been added to Chapter 3.
- 4) The area and mobile source emissions projections in Chapter 4 were changed to more clearly describe area and mobile source emissions inventories within the nonattainment area.
- 5) One commenter requested changes to clarify the Phelps Dodge smelter production and control processes. These changes have been made in Chapter 6 and in the flow diagram in Appendix C.1. Additionally, the commenter requested clarification regarding control measures required by the maintenance plan. These changes are documented in Chapter 7.
- 6) One commenter requested changes to clarify the Phelps Dodge 2000 emissions inventory. These changes have been made in Appendix B.1.
- 7) One commenter recommended that the planting of trees would benefit air quality in the Miami area, and suggested that this could be accomplished through increased public participation in tree planting activities. ADEQ appreciates the commenter's suggestion; and, agrees that vegetation can improve overall air quality and specifically, reduce CO₂. However, because this plan addresses SO₂ only, no reference to the suggestion was added to the final Plan.
- 8) Spelling, grammatical, and formatting errors throughout the document have been corrected.